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MENTAL SCIENCE AND MENTAL CULTURE

BROOKS

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R.G.Boone

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MENTAL SCIENCE

AND

METHODS OF MENTAL CULTURE,

DESIGNED FOR

THE USE OF NORMAL SCHOOLS, ACADEMIES, AND PRIVATE
STUDENTS PREPARING TO BE TEACHERS.

BY

EDWARD BROOKS, A. M., PH. D.,

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"*Whatever that is which thinks, which understands, which wills, which acts, it is something celestial and divine; and, upon that account, must necessarily be eternal.*"—CICERO.

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PREFACE.

EDUCATION embraces the culture and instruction of the mind. This culture and instruction must be based on a knowledge of the nature of the mind and its activities. Such a knowledge is not only a necessity, but this necessity is now generally realized by educators and intelligent teachers. Never before in the history of education has there been so strong and wide a demand for works treating of the nature of the mind and its culture, as at the present time. With the view of meeting this demand, the present treatise is published.

Origin.—This treatise originated and grew up in the class-room. It is the result of many years' experience in the instruction of student-teachers in mental philosophy. Much of it was prepared and given to classes in written or printed notes for them to study and recite. These notes acquired a popularity outside of the school, and, by permission, were used in several other institutions. A demand was thus created for a text-book on the subject, and to meet the demand these notes have been rewritten and expanded into a complete treatise.

Extent.—The work presents a complete outline of the subject of Mental Philosophy, embracing the Intellect, the Sensibilities, and the Will. The treatment of the Intellect is especially full and detailed, as the teacher's work has mainly to do with the culture and training of this faculty. The Sensibilities and Will are discussed more briefly, but their treatment is comprehensive and complete. While aiming at conciseness and simplicity in the explanation of each topic, the object of the author has been to discuss all the leading principles of the science, and thus present a complete treatment of the nature of the mind and the methods of cultivating it. The topics are so arranged that students who wish a shorter course can omit some of the less important points in the discussion; and an outline is

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presented, indicating a twelve or fourteen weeks' course, which gives a connected view of the whole subject. (See page 12.)

The Material.—The subject of mental philosophy has been so thoroughly investigated that an author can hope to present but little that is new or original. The first object of a writer should be to state clearly the generally recognized views of the science, and this has been the primary aim in the present work; it will thus be found to agree in the main with the best thinkers of modern times. The principal object has not been to be original in thought or expression, but to be clear, accurate, and concise. Nothing was put in because it was new, and nothing left out because it was old. I have aimed to produce a text-book which should contain, in a clear and practical form, the essential elements of mental science. I have not hesitated, however, to present such new views of the subject as my own thinking has suggested. There will thus be found, in the treatment of nearly every topic, some new idea, or some new phase or clearer statement of an old one. Some of the points peculiar to this work are the regarding of the cognition of the sensation as an act of perception, the giving of *four distinct elements* to the memory, the spontaneity of recollection, the reduction of all the laws of memory to the one *law of the relation of ideas*, the distinct assumption and proof of two elements of the imagination, making it a *combining* and a *creating* power, the formal including of the several ideas of Space, Time, etc., under the *Intuitions of the True*, the treatment of the Ludicrous as a rational idea, etc. Special attention is also called to the brief but comprehensive treatment of the Will, and especially of the doctrine of the Freedom of the Will.

Mental Culture.—The most striking feature of the work is the formal presentation of *Methods of Cultivating the Different Faculties*. This feature especially distinguishes the work from every previous treatise that has fallen under the author's notice; and, it is thought, will render it especially valuable to the teacher and educator. To this part of the subject the author has devoted special labor, and having no previous treatment to guide him, his task was a difficult and embarrassing one. Much of what is given has been used in oral discussions in his teaching classes for many years, and in his lectures at teachers' institutes in different parts of the State. As he was compelled by the limits of the volume to be brief, the discussions presented are mere outlines of what could be written on the subject. It is proper to remark, also, that they do not come up to the author's ideal of what could be presented; but they may serve to awaken an interest in the subject, and incite others to a fuller and more suggestive treatment of the culture of the mind.

Nature of the System.—The system of philosophy here presented is similar to that of the best English and American thinkers. In its general spirit it coincides with that of Sir William Hamilton, though it differs in many details from that illustrious author. It also agrees in spirit with much of the best German thinking on the subject of metaphysics. In its system of thought it is neither materialistic nor absolutely rationalistic, but aims to unite what is true in both of these schemes of philosophy. It holds that the mind is an entity distinct from matter and the author of thought, rather than that thought is a function of matter, as taught by the modern materialistic school of thinkers. It does not ignore, however, the physical basis of perception, and it therefore accepts one of the established facts of the materialistic school. But it rises above this school by assuming that the mind is an original source of truth, and that it can originate and comprehend necessary and universal principles. It thus rises from the lowest facts of materialism to the highest facts of rationalistic philosophy.

Relation to Religion.—The relation of its teachings to religion is one of the striking features of the work. Beginning with the sensations in the nervous tissue, it traces ideas up through the senses into the realm of abstract and general truth, and finally up into the domain of supersensual ideas and truths, and here finds the True, the Beautiful, and the Good. Here it reaches the conception of the Absolute and Infinite, and uniting these with the Good, it attains to the highest conception of the mind, that of GOD. Recognizing this idea in the soul as an immutable verity, and the elements of Faith, Love, and Obedience as associated with it, the work lays a philosophical foundation for the building up of that grand temple of belief found in the human soul, called *Religion.* This system of philosophy is therefore not only *rational*, but it is also *religious.*

A Text-Book.—The special merit of the work is that it is suitable for a text-book upon the science. The aim has been to present the subject with simplicity and clearness, and so that it can be readily *understood* and *recited* by the student. The student of a science needs a book in which he can prepare a lesson for the recitation of the class-room, and most books on mental science are deficient in this respect. In studying a new science, many subjects must be committed, and a text-book should present the matter in a form suitable for recitation. Every paragraph of this work has been written in view of the thought, How will this meet the demands of the recitation-room? Thus prepared, it is hoped that one of its strongest claims on teachers and students will be its merit as a text-book. The value of the work in this respect has also been enhanced by the scholarly suggestions of Prof. E. Oram Lyte, who has kindly and with critical care read nearly all the manuscript.

In closing this preface, I desire to express the hope that the work may prove valuable to the young men and women of the country, in giving them clearer views of the dignity and power of the human mind and the necessity and nature of its culture. In my own classes the study of mental science has been the source of high inspiration in thought and culture, and has contributed largely to the great success of my pupils as teachers and members of the other professions. Recalling the many happy hours spent in the class-room discussing the themes here treated, I take pleasure in dedicating this, my latest, and probably my last work,

TO MY PUPILS IN MENTAL SCIENCE,

with the sentiment they have often heard me express that *I would rather live in the hearts of my pupils than be honored in song or story.*

EDWARD BROOKS.

STATE NORMAL SCHOOL,
Millersville, Pa.. Jan. 16, 1883.

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MENTAL SCIENCE.

AND

METHODS OF MENTAL CULTURE.

CHAPTER I.

THE NATURE OF MENTAL SCIENCE.

MENTAL SCIENCE is the science of the human mind. It treats of the nature of the mind and the manner in which it operates. Its object is to ascertain the facts of mind and the laws which regulate its operations. The object of a text-book on Mental Science is to state these facts and laws in a clear, precise, and systematic manner.

Mental Philosophy.—The science of the mind is often presented under the name of Mental Philosophy. The term *philosophy*, however, is a little broader in its signification than *science.* Strictly speaking, Philosophy is the science of the true; in its more general sense, however, it means the investigation and explanation of the laws and principles of a subject. The word is derived from *philos*, a lover, and *sophia*, wisdom, a philosopher being, literally, a lover of wisdom. The origin of the term is usually ascribed to Pythagoras, though Hamilton thinks it more natural to refer it to Socrates.

Psychology.—The technical name of the science of the mind is Psychology. Psychology may thus be defined as the science of the human mind. It has been divided into Empirical Psychology and Rational Psychology, according to the methods of attaining to the facts and principles of the science. The term is derived from *psyche*, the soul, and *logos*, a discourse, and thus means a discourse about the soul. It is interesting to notice that the relation of the term *psyche* in the Greek to a butterfly, carries with it the intimation of an early belief in the immortality of the human soul.

Anthropology.—The science of Psychology stands intermediate between two other sciences,—Physiology and Anthropology. All of these sciences treat of man, but in different ways. Physiology treats of the human body; Psychology treats of the human mind; while Anthropology treats of the entire man as body and soul. Anthropology investigates man as a complex whole, shows the influence of climate, soil, and physical surroundings on the soul and body, the influence of the soul and body on each other, and endeavors to ascertain all those circumstances and principles which determine the condition and character of the individual and the race.

Metaphysics.—The term Metaphysics has been sometimes applied to the science of the mind. This term, according to its etymological meaning, stands in contrast with the term Physics, or the science of matter. It has been used in a popular sense to include whatever is not embraced under Physics. In its narrower sense it may be defined as the science of abstract truth. The term is said to have originated with the disciples of Aristotle. Several of his works relating to the material world, were collected and published under the title of τα φυσικα; subsequently other works treating of philosophical subjects were arranged under the title of τα μεταφυσικα, indicating that they were to be read after the perusal of the other works. From this the term came to be used in the sense of embracing everything not included under Physics.

Other Branches.—The term Metaphysics, however, neither in its wider nor in its stricter sense, is properly used as the name of the science of the mind. There are many other branches besides mental science that may be included under the head of metaphysics. Thus, we have Logic, or the science of thought; Ethics, or the science of the Right; Æsthetics, or the science of the Beautiful; Politics, or the science of government; Ontology, or the science of pure being, etc. These branches are very nearly coördinate with Psychology, the science of the mind, and may all be properly distinguished as metaphysical sciences.

THE NATURE OF SCIENCE.—In order to have a somewhat clear notion of the nature of mental science, it will be well to obtain a general idea of the nature of Science and the elements of which it is composed. *Science* may be defined as organized knowledge. It embraces the facts and truths of a subject systematically arranged and bound together into an organic unity by laws and principles. This statement gives a general idea of the nature of science, but the subject will be more clearly understood by noticing the character of the two general classes into which science is divided.

Two Kinds of Science.—There are two general classes of science, which may be distinguished as the Deductive and the Inductive sciences. A Deductive science consists of three things: first, *ideas*, which lead to definitions; second, self-evident truths called *axioms;* third, derived truths or *theorems.* Arithmetic, geometry, etc., are examples of a deductive science. An Inductive science embraces several distinct elements; first, *facts* and *phenomena;* second, the *causes* of these facts and phenomena; third, the *laws* which govern these facts and phenomena. Natural Philosophy is a good example of an inductive science. A few of these sciences, as botany, consist principally of *facts* and *scientific classifications.* Some sciences partake of the nature of both of these two general classes.

These two classes of sciences are also distinguished as Rational and Empirical sciences. These terms indicate the origin of the elements of which they are composed. The Empirical sciences are those whose elements are derived from experience; the Rational sciences are those whose elements are derived from the reason. The terms Inductive and Deductive, as applied to these sciences, indicate the methods of their development, the former being developed by inductive reasoning, and the latter by deductive reasoning.

Nature of Elements.—The elements of these sciences consist of *ideas*, *thoughts*, *truths*, *facts*, *phenomena*, *causes*, *laws*, etc. An *Idea* is a mental product which, when expressed in words, does not give a proposition; as, *man*, *animal*, *triangle*, *polygon*, etc. A *Thought* is a mental product which, when expressed in words, gives a proposition; as, *a man is an animal*, or *a triangle is a polygon*. A *Truth* is a *true* thought: *a man is a quadruped* is a thought, but not a truth. A *Fact* is a truth in the domain of experience; as, *the sun shines*, or *the mind remembers*. The term Truth is often limited to self-evident and derived truths. A *Phenomenon* is an appearance; as, *the twinkling of the stars:* the statement of a phenomenon gives a fact; as, *the stars twinkle*. A *Cause* is that which produces an event. A *Law* is the regular mode or order according to which something acts or takes place.

Origin of Elements.—In the deductive sciences the ideas are usually given by intuition—as, the ideas of geometry, *i. e.*, *angle*, *triangle*, *circle*, etc. The truths of the deductive sciences are of two kinds, *axioms* and *theorems*. The axioms are self-evident truths given also by the intuitive power, as, "all right angles are equal to one another." The theorems are derived by deductive reasoning, as, "the sum of the angles of a plane triangle equals two right angles." In the inductive sciences the facts and phenomena are given by experience. The causes and laws are derived by inductive reasoning. The scientific classifications are given by generalization. In both classes of sciences the material is carefully classified and systematized.

NATURE OF MENTAL SCIENCE.—Having noticed the general nature of science, we are prepared to see more clearly the nature of mental science. Such a general view will be of great value in the study and comprehension of the science. In order to pursue the study intelligently, we need to know the character of the knowledge we are acquiring, and the method of its development. We shall, therefore, present a brief statement, showing of what knowledge the science is composed, and how this knowledge is obtained.

Elements Embraced.—The science of the mind embraces several distinct elements. First, we have the *facts* pertaining to the mind, including the various *faculties* and their *operations*. Second, we have the *laws* which govern these activities. Third, we have a statement of the *causes* of certain facts and phenomena of the mind. Fourth, we have *hypotheses* and *theories* to account for certain facts and phenomena of the mind not readily understood. Fifth, these activities are attended with certain *products*, the nature and origin of which are also to be explained. All these are to be systematically arranged and presented.

Facts how Obtained.—The facts of the mind, including its operations and products, are obtained by observation and experience. The operations of the mind are revealed to us by consciousness. In order to study mental science, then, we must first notice carefully the operations of our own minds. We can also, to a certain extent, observe the workings of the minds of others, and thereby gain some facts relating to the science of the mind. The nature of the mind is also revealed by the expression of its products in language. We can therefore study mental philosophy by studying the products of mind embodied in the language and literature of a people. Language has been expressively defined as "concrete metaphysics."

Laws how Obtained.—The laws of the activity of the faculties are gained partly by experience and partly by an induction from the facts of experience. Some of the principles which govern the operations of the mind are revealed in consciousness or are given by intuition. Many of them are reached by a careful comparison of the facts and an induction of a general law from the particulars. The hypotheses and theories put forth to explain the facts are verified by reflection and reasoning. Some of the facts and laws, it is claimed, can be deduced from general *a priori* principles of the reason, but this is not so readily seen.

Similar to Natural Science.—In its development Mental

Science is similar to a natural science. In a natural science, as Natural Philosophy, we begin by the observation of facts; we then seek for the causes of these facts and the laws which govern them. Thus, we observe the *fact* that certain *bodies fall toward the earth;* we then inquire after the *cause*, and find it to be the *attraction of gravitation;* we then ascertain the *laws* of falling bodies, and find that the *distances are proportional to the squares of the times.* So in mental philosophy we obtain facts by experience, and then search for the causes which produce and the laws which govern them.

RELATION TO NATURAL SCIENCE.—The nature of mental science may be better understood if we notice a little more closely its relation to the natural sciences, with which the student is supposed to be somewhat familiar when he enters upon the study of mental philosophy. There are several particulars in which these two sciences agree, and also several points of difference.

Knowledge of Each.—First, we know only the phenomena of each. We know matter by its properties, and mind by its activities. Of the essence or essential nature of matter, we know nothing; and the same is true of our knowledge of mind. We know its operations and states, we are conscious that it perceives, remembers, imagines, reasons, that it loves, hates, desires, determines, etc.; but what it is in its essential nature, in its essence—of this we are ignorant.

Development the Same.—The two sciences agree also in the manner in which they are developed. They both consist of *facts*, the *causes* of the facts, and the *laws* which govern them. These facts, in both cases, are the result of experience. From the facts and phenomena we pass to their causes and laws. These are obtained by a careful induction from particulars, aided frequently by *hypothesis* and *theory.* All these elements are reduced to a system by the process of classification.

How They Differ.—While there is this general agreement in the manner of the development of the two sciences, there are also several differences. First, the facts in mental science are given, not by an observation of things without, but by a consciousness of what takes place within the mind. The experience is one of reflection rather than of observation. Again, the inquiry after causes is not so prominent in the science of mind as in that of matter. The reason for this seems to be that the fact is more nearly related to its cause, or rather they are revealed in a closer connection with each other. The law is less a matter of induction and more a matter of intuition or philosophical insight in mental science than in natural science.

Not a Natural Science.—The relation of the two classes of sciences is so close that some thinkers regard mental science as a natural science. For this they adduce two reasons: first, their methods of development are the same; and second, the mind belongs to the domain of nature. This view is not regarded as correct. The latter reason would make arithmetic and geometry natural sciences, since number and form belong to the natural world. Even though the methods of development are similar, the subject matter is so different that we are justified in regarding them as two different kinds of sciences.

VALUE OF MENTAL SCIENCE.—In entering upon a new study it is natural for the student to inquire in respect to its value and use. This is especially the case in so abstract a science as mental philosophy, a science also of which the general scholar has so little knowledge. We shall, therefore, devote a few paragraphs to showing the value of a knowledge of mental science. We preface these remarks by speaking of the neglect of the study, and the reasons for this neglect.

The Study Neglected.—The study of mental science has been widely neglected. This neglect is due to several causes. One of these causes lies in the nature of the science itself: it is abstract and difficult for the ordinary mind to understand. Second, the mind turns more naturally to the concrete and objective, to that which lies without and has form and color, than to the formless and intangible operations and products of the human spirit. Third, the study of the material world seems to promise more practical results, as it deals with forces which serve man's convenience, and contribute to his comfort and material welfare. To build a railroad or invent a telegraph seems to be worth more to the world than to understand the laws of thought, or be able to discuss the freedom of the will. This is an age of action rather than of reflection; and we must wait until "that period comes of golden affluence, and leisure, and elegant culture, that can at once appreciate and reward the higher efforts of philosophic investigation."

Valuable as a Discipline.—The study of mental science is especially valuable for the discipline it affords to the mind. It trains the mind to habits of reflective thought, and cultivates that fine sense of discrimination so necessary to science. It does more to give breadth of mental grasp and philosophic poise of thought than any other branch of learning. As a disciplinary study it has no superior, even if it has an equal, among the sciences. The three great disciplinary studies of thought-power are, Mental Arithmetic, Geometry, and Mental Philosophy. Mental arithmetic trains the young mind to habits of rigid analysis; geometry trains it to the logical forms of thought and expression; mental science crowns the work, and cultivates the power to grasp abstract principles. The study, therefore, which we place highest on the list for the culture of thought-power, is mental science.

Value to the Teacher.—A knowledge of mental science is invaluable to the teacher. The teacher's work is to develop and train the minds of his pupils; and to do this aright, he must understand the nature of the mind he is to cultivate. As well might the farmer undertake to cultivate the soil without knowing anything of its nature, or the physician attempt to cure disease without knowing anything of the human system, as for the teacher to attempt to train the mind without understanding anything of its nature and activity.

To be more specific, the teacher should understand the mind in order to select and adapt knowledge suitable to its capacities in different stages of its activity. That is, he should know the nature of the mind in order to arrange a course of study suited to its development. Again, the teacher should understand the mind, since the principles of instruction have their basis in and are drawn from the nature of the mind. These principles are of three classes; first, those pertaining to the culture of the mind; second, those pertaining to the order in which knowledge shall be presented; and, third, those pertaining to the methods of communicating knowledge. The first of these, it is evident, are drawn immediately from the nature of the mind. The principles pertaining to the order of presenting knowledge have their origin in the mind, since knowledge originates in the mind and thus derives its character from the mind. The principles relating to the methods of imparting knowledge can also be shown to have an intimate relation to the nature of the mind.

A knowledge of mental science thus lies at the very foundation of the teacher's work. No person is fully qualified to teach until he understands the nature of the mind. Much of the blundering in the methods of teaching is due to the ignorance of teachers in this respect. The cramming of our schools, which has produced so many cases of mental dyspepsia, is the result of this wide-spread ignorance of mental science. All the reforms of modern methods of teaching are based upon a clearer view of the nature and functions of the mind of the learner; and we may expect our methods to continue to improve in the direct ratio of an increase of a knowledge of mental philosophy among teachers and educators.

Of General Value.—A knowledge of the nature of the mind is of value in every vocation. It gives one a knowledge of human nature; and such a knowledge is a key to success in every occupation depending upon the influencing of men. The physician who understands the mental peculiarities of his patients, and the relation of the mind to the bodily functions, can often do more for the cure of disease through mental influences than by the administering of medicines. The lawyer wins or loses his case, according as he knows how to influence the judgment and sensibilities of judge and jury. The minister moves the hearts and wills of his congregation better when he understands the hidden springs of thought and emotion. The orator leads the opinions and arouses the passions of the people when he is familiar with the secret working of the faculties of the human soul. And so in every vocation where mind comes in contact with mind, the man who understands the law of human influence is usually the man of influence and success.

CHAPTER II.

THE NATURE OF THE MIND.

THE MIND is that part of our nature which is called the spirit, the soul, or the intelligence. It is that unseen power which constitutes us intelligent and rational beings, and thus distinguishes us from the material world around us. Of its essential nature nothing is known; we study it only by its manifestations,—its activities and products.

How to Define Mind.—The mind can be defined only by its activities. In order to define the mind, therefore, we must observe and determine its various forms of activity. These activities, classified under a few general heads and predicated of the unseen something which manifests them, will give us a definition of mind. A careful analysis enables us to classify all the mental activities under three general heads; thinking, feeling, and willing: we may therefore define the mind as *that which thinks, feels, and wills.*

Other Names.—The terms *spirit* and *soul* are generally regarded as synonymous with mind. Some writers, however, distinguish between the mind and the soul, regarding the mind merely as the power of thinking and knowing, or as a part of the soul, which is the entire spiritual nature. Some distinguish also between the soul and the spirit, regarding the soul as that which is or has been connected with a body, while the spirit is that which neither is now nor ever has been connected with a bodily form. In this treatise the term *mind* is used as embracing the whole spiritual being.

Essence not Known.—In the study of mental science no attempt is made to ascertain the essence, or essential nature of the mind. Indeed, of the essence or substance of which the mind is composed nothing can be known. Marivaux, says Dr. Brown, was once asked "What is the soul?" "I know nothing of it," he replied, "except that it is spiritual and immortal." "Well," said his friend, "let us ask Fontenelle; perhaps he can tell us what it is." "Ask any one but Fontenelle," replied Marivaux, "for he has too much good sense to know anything more about it than we do." But though we cannot know mind in its essential attributes, we can know that it exists, and can understand its activities and the forms and laws of its operations.

Existence of Mind.—The existence of mind is revealed by its activities. *I know, therefore I am*, is a fundamental principle of mental science. Descartes, a philosopher of the seventeenth century, based his philosophy upon the principle *cogito, ergo sum*, —I think, therefore I am,—and this has been accepted as a correct basis of belief by nearly all subsequent writers. The existence of mind is not however an inference from thinking, but is a fact involved in the very act of thought. The evidence of each person's own existence is self-consciousness: *I know that I am* is a final and ultimate judgment that authenticates my personal existence. The mind knows its own existence; and this knowledge is ultimate and final.

Not a Result of Matter.—This something which we call the mind is not a phenomenon of matter, like electricity or galvanism. It cannot be admitted that consciousness results from the combination or action of any number of chemical elements. It is a law of nature that a mechanical cause passes completely into a mechanical effect. It is, therefore, impossible to conceive of the conversion of material particles into so dissimilar a thing as human intelligence; or of a blind force like gravity or electricity becoming conscious and intelligent. Even Huxley says, "How it is possible that anything so remarkable as a state of consciousness comes about as the result of irritating nervous tissue, is just as unaccountable as any other ultimate fact of nature."

The Mind Spiritual.—The mind is said to be spiritual rather than material. It differs from matter in several particulars. Mind is self-active; matter is not. The law of matter is that of inertia; if it is moved at all, it is moved by some force extraneous to itself: the mind possesses the power of voluntary motion; it acts from within by an energy of its own. The movement of matter is caused; mind is the cause of its own movements. Matter has extension and form; mind does not reveal itself as possessing these elements. Matter has length, breadth, and thickness; mind, so far as we know, possesses none of these attributes. Matter is known by the mind through the senses; mind is self-knowing; it knows itself. Matter reveals itself to us in its properties; mind in its activities and capacities. Neither mind nor matter is known in its essence; we know the properties of matter, and the activities of the mind.

Not Universally Admitted.—This distinction between mind and matter is not universally admitted. The disciples of the materialistic school of philosophy regard matter as the only one thing of which we have any positive knowledge; and assert that we have no authority for predicating the distinct existence of mind and matter. They hold that the phenomenon of thinking is a function of matter, like extension and motion. Huxley says, "We have no knowledge of any thinking substance apart from an extended substance." He also remarks that "we shall, sooner or later, arrive at a mechanical equivalent of consciousness, just as we have arrived at a mechanical equivalent of heat."

Objections to this View.—This view of the mind we believe to be entirely erroneous. It involves the assumption that something which cannot know itself as existing (matter) gives rise to something which knows both itself and that which produced it (mind); and yet this knowing something that asserts the existence of itself cannot authenticate its own existence, but can authenticate the existence of that which manifested it! A more absurd paradox is not conceivable. The philosophy taught in this volume assumes the distinct and independent existence of an entity which we call THE MIND.

Mental Faculties.—The mind reveals itself to us by its activities or its capacities for activity. These activities present themselves in different forms, which may be compared and readily distinguished. Each different form of activity or capacity for a form of activity constitutes what is called a *faculty* of the mind. These faculties can be clearly distinguished, and admit of being logically classified.

A Mental Faculty.—A Mental Faculty may be defined as a capacity for a distinct form of mental activity. It is the mind's power of doing something, of putting forth some energy, of manifesting itself in some particular manner. The number of distinct faculties, it is evident, must depend on the number of distinct forms of mental activity. A careful examination of the various ways in which the mind acts has enabled philosophers to enumerate different faculties and describe their operations.

The Mind Simple.—The mind, though possessing different faculties, is not to be regarded as complex. It is not made up of parts, but is rather single and one. It may act in various ways, and be regarded as consisting of various capacities, but it is the same one thing acting under different forms, or in different ways. The mind is a spiritual unity, having many powers, but one essence. To it may be applied, with especial propriety, the motto, *E Pluribus Unum.*

A Correct Conception of Mind.—Great care is needful to form a correct conception of the mind, which no definition or analysis can fully present. The mind is a spiritual unity, with many susceptibilities and capacities, but with oneness of personality. The mind is a self-conscious activity, and not a mere passivity; it is a pulsating centre of forces, all resting in the background of the ego. The mind, as a centre of forces, stands related to the forces of the material and spiritual universe, and is acted upon through its susceptibilities by these forces. As a spiritual activity it takes the impressions derived from these forces, and works them up into the organic growth of itself, converts them into conscious knowledge, and uses these products as means to set other forces into activity, and produce new results. Standing above nature, and independent of its surroundings, it nevertheless feeds upon nature, as we may say, and transforms material influences into spiritual facts akin to its own nature. Related to the natural world, and apparently originating from it, it yet rises above this natural world, and with the crown of freedom upon its brow, rules the natural obedient to its will.

General Classification.—The mind has been divided into three general classes of faculties: the faculties of knowing, feeling, and willing. These three classes of faculties have been called respectively, the Intellect, the Sensibilities, and the Will. Every capacity or power which the mind can exercise, is found to fall under one of these three heads. Every act of the soul is an act either of knowing, feeling, or willing—an act of the Intellect, the Sensibilities, or the Will.

Illustration.—The relation of these three spheres of activity may be illustrated in a variety of ways. I read of the destitution and suffering of the people of a great city, and understand the means taken for their relief: this is an act of the intellect. I feel a deep sympathy with this suffering; my heart is touched with pity, and I experience a strong desire to aid in relieving their distress: this is an act of the sensibilities. I desire to express my feelings of pity and follow my sense of duty, and resolve to aid them by sending a contribution or going personally to their relief: this is an act of the will.

Relation of these Powers.—The relation of these three classes of powers will indicate the correctness of this "tri-logical classification." We can conceive of a being possessed of the power of cognition and yet void of all feeling of pain or pleasure, and of all power of desire or volition. On the other hand, we cannot conceive of a being possessed of feelings and desires without a knowledge of those feelings. So also we can conceive of a being possessed of knowledge and feeling, yet devoid of the faculty of volition and voluntary action. But we cannot conceive of the existence or exercise of a power of volition independently of all cognition of an object of thought or some feeling in relation to such a volition.

Origin of this Division.—This threefold division of the faculties of the mind was first distinctly intimated by Kant. Aristotle spoke of five classes of powers, though the Peripatetic school recognized two classes, the *cognitive* and the *conative* powers. The schoolmen ascribed to man three classes of powers; the *vegetative*, the *perceptive*, and the *rational*. Modern writers on philosophy for many years divided the powers into two classes; the *Understanding* and the *Will*, or the *speculative* and the *active* powers. Gradually the *feelings* came to be distinguished as a separate mental state, coördinate with thought and will. The first formally to announce this threefold classification of the mind into Intellect, Sensibilities, and Will, was Prof. Upham.

Gradually Developed.—Prof. Upham presents a large number of quotations to show that this division was gradually developing in thoughtful minds. Among others, Lord Chesterfield says, in a letter to his son on the manner of conducting negotiations: "If you engage his *heart*, you have a fair chance for imposing on his *understanding*, and determining his *will*." Even Shakspeare had made the division by the intuition of his marvelous genius, for he says,

> "It shows a *will* most incorrect to heaven,
> A *heart* unfortified,
> An *understanding* simple and unschooled."

This classification is now universally accepted by those who make any formal division of the faculties, and it is the basis of the treatment in the present work.

General Suggestions.—In the study of the mind two general suggestions are made. First, the student should test the statements of the author by a reference to the action of his own mind. He must learn to look within, to bend the mind in upon itself, and notice and analyze his own mental operations. The test of a fact or theory should be his own consciousness. Second, he should be careful not to think of his mind as separate from himself. The mind is one's self, not merely something belonging to one's self. And so in respect to our faculties; we should not regard a faculty as a part of the mind, as a blade is a part of a knife, but rather as a form of the activity of the mind. The mind is single and one, a unity of substance with a variety of powers. It is one and the same ego that perceives, remembers, reasons, etc.

Having now explained the general nature of the mind, with its three great classes of powers, we proceed to a detailed description of these powers and the laws of their activity. The next chapter contains a complete outline of the subject, and may be called the alphabet of Mental Science. Any one who has thoroughly mastered it, has implanted in his mind the germs of the entire subject of Mental Philosophy.

CHAPTER III.

THE FACULTIES OF THE MIND.

THE MIND is that which thinks, feels, and wills. It is that immaterial principle which we call the soul, the spirit, or the intelligence. Of its essence or substance, nothing is known; we know it only by its activities and its operations. The different forms of activity which it presents, indicate different mental powers, which are called *Faculties* of the mind.

A Mental Faculty.—A Mental Faculty is a capacity for a distinct form of mental activity. It is the mind's power of doing something, of putting forth some energy, of manifesting itself in some particular manner. The mind possesses as many faculties as there are distinct forms of mental activity. In order, therefore, to ascertain the different faculties of the mind, we must notice carefully the various ways in which the mind acts.

General Classification.—The mind embraces three general classes of faculties; the *Intellect*, the *Sensibilities*, and the *Will*. Every capacity or power which the mind possesses falls under one of these three heads. Every mental act is an act of the Intellect, the Sensibilities, or the Will. Every product of the mind is either an *intellection*, a *feeling*, or a *volition*.

The Mind Triune.—The mind is thus a tri-unity,—one substance with a trinity of powers. The doctrine of the Trinity is as evident in the creature as in the Creator. Made in the image of God, the mind reflects the nature of the divine pattern after which it was fashioned. As in God we have the Father, the Son, and the Holy Spirit; so in man we have the Intellect, the Sensibilities, and the Will.

The Intellect.—The Intellect is the power by which we think and know. Its products are *ideas* and *thoughts.* An Idea is a mental product, which may be expressed in one or more words, not forming a proposition; as, a *man*, an *animal*, etc. A Thought is a mental product consisting of the combination of two or more ideas, which when expressed in words, gives us a proposition; as, *a man is an animal.* Our notions of the different figures of geometry, as *angles*, *triangles*, *squares*, etc., are *ideas;* while our conceptions of *axioms* and *theorems* are *thoughts.*

The Sensibilities.—The Sensibilities are the powers by which we feel. Their products are *emotions*, *affections*, and *desires.* An *emotion* is a simple feeling, as the emotion of joy, sorrow, etc. An *affection* is an emotion that goes out towards an object; as *love, hate, envy*, etc. A *desire* is an emotion that goes out to an object with the wish of possession; as the *desire* of *wealth*, *fame*, etc.

The Will.—The Will is the power of deciding or determining what to do and of putting forth volitions accordingly. It is the executive power of the mind, the power by which man becomes the conscious author of an intentional act. It is the motive power of the mind; by it we put the other faculties into activity and control their action. The products of the Will are *volitions* and *voluntary actions.* It is in the domain of the Will that man becomes a moral and responsible being.

The Intellect.—The Intellect embraces several distinct faculties; *Perception*, *Memory*, *Imagination*, *Understanding*, and *Intuition*, or the *Reason.* This classification of the Intellect is now almost universally accepted, though writers occasionally differ in the terms they use to name the different powers.

Perception.—Perception is the power by which we gain a knowledge of external objects through the senses. It is the faculty by which we gain a knowledge of objects and their qualities. Its products are ideas of external objects and of the qualities of objects. The products of perception are called *percepts.* The ideas which we possess of persons, places, things, etc., are mainly given by perception.

Memory.—Memory is the power by which we retain and recall knowledge. It enables us to hold fast to the knowledge we have acquired, and also to recall it when we wish to use it. These two offices of the Memory are distinguished as *Retention* and *Recollection.* By some writers these are regarded as separate faculties; and others again discard the element of retention. Besides these, the memory also gives us a *representation* of that which it recalls, and *recognizes* it as something of our past experience.

Imagination.—Imagination is the power by which we form ideal conceptions. It is the power of forming mental images by uniting different parts of objects given by perception, and also of creating ideals of objects different from anything we have perceived. Thus, I can conceive of a *flying horse* by uniting my ideas of wings and a horse; or I can imagine a landscape or a strain of music different from anything I have ever seen or heard. Imagination is thus *the power of ideal creation.*

Understanding.—The Understanding is the power by which we compare objects of thought and derive abstract and general ideas and truths. It is the elaborative power of the mind; it takes the materials furnished by the other faculties and works them up into new products. Its products are *abstract* and *general ideas, truths, laws, causes,* etc.

Intuition.—Intuition, or the Reason, is the power which gives us ideas and thoughts not furnished by the senses nor elaborated by the Understanding. Its products are called *primary ideas* and *primary truths.* The Primary Ideas are such as Space, Time, Cause, Identity, the True, the Beautiful, and the Good. The Primary Truths are all self-evident truths, as the axioms of mathematics and logic.

The Understanding.—The Understanding embraces several distinct faculties or forms of mental activity. These are *Abstraction, Conception, Judgment,* and *Reasoning.* This division is now almost universally adopted, and the same terms are employed by nearly all modern writers.

Abstraction.—Abstraction is the power of forming abstract ideas. It is the power by which the mind draws a quality away from its object, and makes of it a distinct object of thought. Its products are *abstract ideas*, such as *hardness, softness, color*, etc. The naming of abstract ideas gives us abstract terms. The term *Abstraction* is derived from *ab*, from, and *traho*, I draw, and signifies a drawing from.

Conception.—Conception is the power of forming general ideas. By it we take several particular ideas, and unite their common properties, and thus form a general idea which embraces them all. The products of Conception are *general ideas*, or ideas of *classes;* as *horse, bird, man*, etc. The naming of general ideas gives us *common terms.* This faculty is often called *Generalization;* but the term *Conception* is more appropriate, and is the one generally adopted by logicians. The term *Conception* is derived from *con*, together, and *capio*, I take, and signifies a taking together.

Judgment.—Judgment is the power of perceiving the agreement or disagreement of two objects of thought. It is the power of comparison. It compares one object directly with another, and gives us a *proposition.* A proposition is a judgment expressed in words. Thus, *a bird is an animal*, is a judgment expressed. The term Judgment is applied to both the mental faculty and its product.

Reasoning.—Reasoning is the power of comparing two ideas through their relation to a third. It is a process of indirect or mediate comparison. It deals with three objects of thought, and requires three propositions. Thus, suppose I wish to compare A and B, and perceiving no relation between them, see that A equals C, and B equals C, and thus infer that A equals B; such an inference is an act of reasoning.

The Syllogism.—The form in which reasoning is expressed is called a *Syllogism.* A Syllogism consists of three propositions so related that one is an inference from the other two. Two of these propositions are called the *premises* and the third the *conclusion.* Thus, in the above example the two propositions, "A equals C" and "B equals C," are the premises; and "A equals B" is the conclusion.

Inductive Reasoning.—Reasoning is of two kinds; *Inductive Reasoning* and *Deductive Reasoning.* Inductive Reasoning is the process of deriving a general truth from particular truths. Thus, if I find that heat expands several metals, as zinc, iron, copper, etc., I may infer that heat will expand *all metals.* Such an inference of a general truth from the particular facts is called *Induction.* Inductive Reasoning proceeds upon the principle that *what is true of the many is true of the whole.*

Deductive Reasoning.—Deductive Reasoning is the process of deriving a particular truth from a general truth. Thus, from the general proposition that *heat expands all metals,* I may infer by Deduction that heat will expand any particular metal, as silver. Deduction proceeds upon the principle that *what is true of the whole is true of the parts.*

Other Forms of Activity.—Besides the faculties now named, two other forms of mental activity or mental states are usually described by writers on mental science; namely, *Consciousness* and *Attention.* These are not regarded as specific faculties of the mind, but as conditions or accompaniments of these faculties. A term very frequently used in mental philosophy also is that of *Conception,* which also requires a few words of explanation.

Consciousness.—Consciousness is the power or attribute of the mind by which it knows its own states and actions. The term is derived from *con,* with, and *scio,* I know, and means a knowing with the mental acts or states. It is a kind of inner light by which one knows what is going on within his mind; it is a revealer of the internal phenomena of thought, feeling, and will. Consciousness is regarded as an attribute of the mind, involved in the very idea of mind, and not as a distinct mental faculty.

Attention.—Attention is the power of directing the mind voluntarily to any object of thought to the exclusion of others. It is the power of selecting one of several objects, and concentrating the mental energies upon it. Attention is not a distinct form of mental activity, but is involved in and underlies the activity of all the faculties. The voluntary operation of any of the mental powers, as Perception, Memory, etc., carries with it an act of attention. The term is derived from *ad*, to, and *tendo*, I bend, which was probably suggested by the attitude of the body in listening attentively to a sound.

Conception.—The term *Conception* is often used in a general and popular sense, meaning that power which the mind has of making anything a distinct object of thought. In this sense it is intimately related to all the mental faculties. Thus I can conceive of a tree or a horse which I have seen, a landscape which I may not have seen, a proposition in geometry, a truth in natural philosophy, etc. Some writers have used the term in a more specific sense, as the power of forming an exact transcript of a past perception. In Logic the term is restricted to the power of forming general ideas, as we have previously defined it.

Hamilton's Classification.—Sir Wm. Hamilton, one of the most eminent philosophers of modern times, presents a classification of the intellect which has been much admired for its simplicity and the suggestive character of the terms used. He divides the Intellect into the Presentative, Conservative, Reproductive, Representative, Elaborative, and Regulative powers.

The Presentative power is that which presents knowledge to the mind; it corresponds to Perception. The Conservative power is that which retains or preserves knowledge in the mind; it corresponds to the retentive element of the Memory. The Reproductive power is that which reproduces knowledge in the mind; it corresponds to the recalling element of the Memory. The Representative power is that which represents knowledge to the mind; it corresponds to the Imagination. The Elaborative power is that which works up or elaborates the knowledge attained by the other faculties; it corresponds to the Understanding. The Regulative power is that which regulates the activities of the other faculties; it corresponds to the Reason.

CHAPTER IV.

THE CULTURE OF THE MIND.

THE SCIENCE OF EDUCATION treats of the developing of the powers of man and the furnishing of his mind with knowledge. The developing of the powers is called *culture*, and the furnishing of the mind with knowledge is called *instruction*. A formal treatment of the methods of cultivating the mind is called *Methods of Culture;* a formal treatment of the methods of instructing the mind is called *Methods of Instruction.*

Nature of Culture.—Methods of Culture treats of the nature of the powers of man and how to develop them. It includes several branches, such as Physical Culture, Intellectual Culture, Æsthetic Culture, Moral Culture, and Religious Culture. The present work treats of the nature of the mind and the methods of cultivating it, and is entitled Mental Science and Mental Culture. Our purpose, therefore, is not only to describe the different faculties of the mind, but also to discuss the methods of cultivating them. Having given an idea of the general nature of the mind, we now present a few principles relating to its culture. These may be called the fundamental principles of mental culture.

1. *The object of mental culture is the fullest development and highest activity of the faculties of the mind.* The mind is developed by culture. Its powers are strengthened and made to act with vigor and skill by judicious training. Without such training the mind may either remain comparatively inert, or its activities may conflict with the normal laws of mental development and fail to produce the best fruits of culture and knowledge. In this respect the mind is like a field, and mental culture like the culture of the soil. Left to itself, a farm may be overrun with weeds and

briers, while if subjected to the careful culture of the husbandman, it will teem with golden harvests. So the mind, if left to itself, may waste its energies and acquire incorrect habits of activity; while if subjected to the guiding hand of culture, it may develop in normal strength and vigor, and bring forth rich harvests of precious knowledge.

2. *One of the primary conditions of mental culture is a well-organized and healthy brain.* The mind acts largely, if not entirely, through or by means of the brain. In its first activities of sensation, the brain and nervous system are an essential condition and medium of mental activity. Impressions made upon the nerves are transmitted to the brain, and there emerge in conscious knowledge. Subsequently thought becomes abstract and seems to be independent of the brain; yet experience proves that the power of abstract thought depends for clearness and vigor upon the condition of the physical system. Indeed, it is not certain that genius and hereditary mental traits may not depend on some subtle organic peculiarity of the brain. It is, therefore, an established fact, that for the best results in mental culture we must endeavor to secure the best condition of the brain and nervous system. "A sound mind in a sound body" is a maxim not to be forgotten in mental culture.

3. *The mind is cultivated by the activity of its faculties.* The mind is a spiritual activity and grows by its own inherent energies. Mental exercise is thus the law of mental development. As a muscle grows strong by use, so any faculty of the mind is developed by its proper use and exercise. An inactive mind, like an unused muscle, becomes weak and unskillful. Hang the arm in a sling and the muscle becomes flabby and loses its vigor and skill; let the mind remain inactive, and it acquires a mental flabbiness, that unfits it for any severe or prolonged activity. An idle mind loses its tone and strength, like an unused muscle; the mental powers go to rust through idleness and inaction. To develop the faculties of the mind and secure their highest activity and efficiency there must be a constant and

judicious exercise of these faculties. The object of culture is to stimulate and direct the activity of the mind.

4. *The activity of the mind requires objective realities for it to act upon.* The mind cannot act upon itself; there must be material for it to act upon. As a power to know, it demands an external world of knowledge to meet the wants of the internal knowing subject. There is such a world of knowledge suited to and correlating with every mental activity. The material world is seen to be an embodiment of thought, and the mind begins its activities with the objects of the material world. The mind itself has developed knowledge by its powers of thought, which is also adapted to give culture to each faculty and capacity. This adaptation is manifest, since knowledge, as the product of one mind, must be suited to the different capacities of all minds. The mind begins its activity with the knowledge thus furnished; it then passes to the creation of knowledge for itself, which affords it its highest and best activity. It is thus apparent that the culture of the mind requires objective realities, and that these realities are abundantly furnished.

5. *Each faculty of the mind requires a culture adapted to itself.* The mind possesses a variety of powers, and each one of these powers operates with different material, and has an activity peculiar to itself. Each power needs different materials for its activity; what would be best for one faculty would not be the appropriate material for some other faculty. We need concrete objects for perception, facts for the memory, abstract truth for the judgment and the power of reasoning, beauty for the imagination, moral truth for the conscience, etc. Besides this difference of material, there is also a difference in the activity of the different faculties; the memory operates in one way, the understanding in another, etc. Both of these things, the material and the methods of activity, are to be taken into consideration in the culture of the mind. Each faculty, therefore, requires, for its training and development, a culture peculiar to itself.

6. *The culture of the mind should be adapted to the order of the*

development of its faculties. The different faculties do not develop simultaneously. Though all are active from the earliest dawn of intelligence, yet they are active in different degrees at different periods. Some faculties are much more active in childhood, and others need the maturity of years for their mature and full development. The natural order of their development should be understood and followed in culture. To endeavor to force all the faculties to equal activity in childhood would be a mistake injurious to the mind and subversive of the best results of culture. The true order of development should be carefully studied and distinctly understood, and the work of culture adapted thereto.

7. *The culture of the mind should aim at a harmonious development of all the faculties.* Man possesses a multiplicity of capacities and powers, all of which contribute to his well-being and his dignity. These powers are so related that they may be unfolded in very nearly equal proportions, and harmoniously blend in the final results of culture. For the attainment of a true ideal of education such a development is required. A perfectly developed manhood or womanhood implies the complete development of every capacity and every gift. The training of the mind, therefore, should reach every power and unfold every capacity. The high aim of culture should be the full and harmonious development of all the faculties.

8. *The culture of the mind should be modified by the different tastes and talents of a pupil.* While all minds possess the same general powers, these powers are often possessed in different degrees. There is often an unusual gift of some one power or combination of powers which gives us what we call genius. Tastes or dispositions for different activities or pursuits also vary. Such differences are not to be overlooked in mental culture. While we should aim to give a general development to all the faculties, we should not forget these special gifts. Genius should be recognized, and an opportunity given for its highest development and achievements. An unusual gift for poetry, or music, or mathematics, or natural science, should be carefully noticed,

and efforts made for its highest culture. It is these gifts which enrich science and art, and add to the sum of human knowledge; and the progress of science and art demands that genius shall have the most abundant opportunities for its full and complete development.

9. *The culture of the mind is not creative in its character; its object is to develop existing possibilities into realities.* The mind possesses innate powers, which may be awakened into a natural activity. The design of culture is to aid nature in improving the powers she has given. No new power can be created by culture; we can increase the activity of these powers, but cannot develope any new activities. Through these activities new ideas and thoughts may be developed, and the sum of human knowledge increased; but this is accomplished by a high activity of the natural powers with which the mind is endowed, and not by the culture of new powers. The profound philosopher uses the same faculties that the little child is developing in the games of the nursery. The object of culture is to arouse the powers which nature has given us into a normal activity, and to stimulate and guide them in their unfolding.

10. *The ultimate end of culture is the attainment of the triune results—development, learning, and efficiency.* The primary object of culture is the growth and development of the faculties. A correct culture, however, naturally leads to the acquisition of knowledge; the man of cultured mind endeavors to enrich his memory with the truths of science and to become a learned man as well as a thinker. A second result of culture is thus seen to be the furnishing of the mind with knowledge. It is not enough, however, that the mind has well-developed powers and is richly furnished with knowledge. There should be the power to make use of this culture and knowledge. The educated man should be able to *do* as well as to *think* and *know*. A third result of culture is, therefore, the acquisition of skill in the use of the mind and of knowledge. In cultivating the mind, therefore, the aim should be to attain the three ends—*culture*, *knowledge*, and *efficiency*.

MENTAL ATTRIBUTES.

(NOT FACULTIES.)

I. CONSCIOUSNESS.

I. Nature of Consciousness.

II. Culture of Consciousness.

II. ATTENTION.

I. Nature of Attention.

II. Culture of Attention.

CHAPTER I.

THE NATURE OF CONSCIOUSNESS.

CONSCIOUSNESS is the power by which the mind knows its own states and actions. It is that attribute of the mind by which it is aware of whatever it feels or does. It is the self-knowing attribute of the soul; the attribute by which it knows itself, its states, actions, and products.

The mind has not only the power of knowing, but it has also the power of self-knowing, of knowing its own acts and states. Thus, when we perceive, or judge, or reason, we are aware of these mental actions. Not to be aware of these actions would be not to perform them. So, also, the mind knows its own mental states or conditions. When it is joyous or sad, loving or hating, sympathizing or repining, it is aware of these feelings, and could not have them unless it was conscious of them. This attribute of the mind by which it is aware of what takes place within itself, is now by all philosophers called *consciousness.*

The Term Consciousness.—The term *consciousness* is derived from *con*, with, and *scio*, I know, and means a knowing with. Consciousness is thus the power of knowing with the other cognitive acts of the mind. The term is related to *conscience,* and was formerly used almost exclusively to designate the moral sense. The first to employ this term in its present signification, in distinction from its ethical meaning, was Descartes. The early Greek writers, Plato and Aristotle, had no special term to express that attribute of the soul by which it knows its own states and operations. Locke discusses it under the head of Reflection.

Various Definitions.—The power of Consciousness has been variously defined by writers on Mental Philosophy. Wayland defines it as that condition of the mind in which it is cognizant of its own operations. Cousin says it is that function of the intelligence which gives us information of everything that takes place in the interior of our minds. Prof. Tappan makes it the necessary knowledge which the mind has of its own operations. Dr. Porter says it is the power by which the soul knows its own acts and states.

Difficulty of Defining.—The difficulty of defining consciousness arises from the notion being so elementary that it cannot be resolved into any others more simple. It does not thus admit of a logical definition, although it may be illustrated and philosophically analyzed. It is frequently described by analogies, some of which illustrate and others perhaps obscure the subject. It has been called "an inner light," by means of which what passes in the mind is rendered visible. It has been called an "inner illumination," a "revealer of mental phenomena," and "the light of all our seeing." Dr. Hickok says: "The conception is not of a faculty, but of a light; not of an action, but of an illumination; not of a maker of phenomena, but of a revealer of them as already made." It has also been called the "inner sense" in distinction from the sense which perceives external objects.

Consciousness not a Faculty.—Consciousness is not regarded as a faculty of the mind, but rather as an attribute necessary to its existence. It is not a distinct form of mental activity, but rather a characteristic of mind by which it is aware of these activities. It is a necessary attribute of the mind that it not only acts but knows that it acts. A machine works, but does not know that it works; the mind not only works, but knows its own workings. Such an attribute is implied in the very idea of mind. We cannot conceive of a being with powers to know and feel without the power of being conscious of such activities.

Involved in Mental Activity.—Consciousness is involved in and is essential to all mental activity. An act or state of my mind exists only as I am conscious of its existence. Thus to know is to know that I know; to feel is to know that I feel; to will is to know that I will. The knowing, the feeling, the willing. are possible only under the condition of their being known to me. If I did not know that I know, I would not know. If I did not know that I feel, I would not feel; if I did not know that I will, I would not will. (It is this power of knowing these acts and states that we mean by consciousness.) The expressions, I know that I know, I know that I feel, I know that I will, may be translated into I am conscious that I know, I am conscious that I feel, I am conscious that I will.

Basis of Mental Activity.—Consciousness lies at the basis of all mental activity. All the faculties rest in it, and are of use to us only as their acts and products are revealed by it. It is, therefore, the source and root of all knowledge. It is an ultimate attribute of the soul: there is nothing below the consciousness upon which it rests. There is no sub-consciousness to reveal the revelations of consciousness. It is not necessary that we have some power by which we may know that we are conscious of a certain act, by which we may know that we "know we know," for that would involve us in the absurdity of a mental series *ad infinitum.* The revelations of consciousness must therefore be regarded as final and ultimate.

Kinds of Consciousness.—Writers speak of two kinds of consciousness; the *natural,* or spontaneous, and the *artificial,* or reflective consciousness. They are also distinguished as the *primary* and *secondary* consciousness. Natural consciousness is the power which the mind naturally and necessarily possesses of knowing its own states and actions. Reflective consciousness is the natural consciousness exercised with intentional and persistent effort. It is consciousness applied to mental phenomena for the purpose of scientific investigation. It is what is called *reflection,* or an intentional bending of the mind inward to observe its mental operations. It is the result of a philosophical habit of mind, and may be called philosophical consciousness.

This distinction is one of degree rather than of kind. The first form of consciousness is a gift of nature and the result of spontaneous development; the second form is an acquirement of art and the result of special effort. The former is employed by all men; the latter is acquired by only a few. The natural precedes the reflective in order of time; the reflective is a development of the natural consciousness. The reflective consciousness is closely related to the subjective phase of attention described in the next chapter.

I. THE OBJECTS OF CONSCIOUSNESS.—As consciousness lies at the basis of all knowledge and reveals every mental act and state, it is evidently important to know precisely what is given by it. Any mistake here is fundamental, affecting all that follows and vitiating the entire system of psychology. The authority of consciousness is ultimate and its testimony final; hence nothing must be rejected or omitted, which is found in consciousness. It is only necessary to establish the fact of the existence of any element in consciousness, not to show its possibility, in order to determine the facts of mental philosophy.

Affords Actual Knowledge.—Consciousness affords actual and not potential knowledge. Not what we may know or have known, but what we do at the present time know, is a fact of consciousness. Thus, a person is said to know that 2×4 are 8, though this proposition be not at the moment the object of his thought; but we cannot say that he is conscious of this truth unless it is actually present to his mind. We are conscious only of actual states, not possible ones; we are conscious of what is now in the mind, and not of what may be or may have been there.

Immediate Knowledge.—Consciousness affords immediate and not mediate knowledge. In an act of memory we are said to know a past occurrence. What we know immediately, however, is the mental representation or idea of the past; and we know the past occurrence itself, not immediately but mediately, through the mental modification which represents it. We are conscious of the representation as immediately known; but we cannot be said to be conscious of the thing represented, which, if known at all, is known only through its representation.

Conscious of Mental States.—Primarily, we are conscious of our own mental states and operations. When we perceive, we are conscious of perceiving; when we think, we are conscious of thinking; when we remember, will, love, hate, etc., we are conscious of these mental acts and states. Not to be conscious of them would be to be conscious of nothing. Whether the mind knows itself or not, it must know its own acts and states. They come and go, they rise and fall like the waves of the ocean, each pressing forward and taking the place of the one that went before. Consciousness catches them as they rise, and knows them, at least for the passing moment.

Conscious of Self.—Secondly, I am conscious also of *myself* as the basis of these acts and states. I know these states and actions to be my own states and actions. This is the cognition of the *self* or *ego*, as the subject or background of these acts and states. The states and actions come and go; the self remains permanent and unchanged.

Self-consciousness a Necessity.—Such a conception of self is a necessary element of an act of consciousness. Without the ego or self, the states and actions could not exist; and we cannot be conscious of the latter without a consciousness also of the former. A mental state which is not experienced in connection with the idea of an individual self, is as impossible as a triangle without three angles, or a square without four sides. This consciousness of the ego is, however, denied by some philosophers, as Hume and Brown. Others again, as Stewart and Hamilton, who admit it, claim that it is not immediate and intuitive, but a derived and secondary knowledge.

Consciousness of Self Immediate.—This consciousness of the ego, we hold, is not the result of reflection, but is direct and immediate. We are not first conscious of the mental state and then forced to look around for something to which it may be referred; but what we know, we know belongs to the ego, to ourself. The experience of a mental state without the cognition of it as my own mental state is as inconceivable as a mind without faculties or the memory without the power of remembering. The consciousness of the mental state is necessarily and inseparably associated with the consciousness of the self as experiencing it.

Conscious of Products.—Thirdly, we are also conscious of the result or product of these states and activities. I am conscious not only of the process of forming an idea, but also of the idea formed. I am aware not only of the act of judging, but of the thought obtained by the act of judgment. In an act of reasoning, I am conscious not only of the process of reasoning, but of the truth attained by the reasoning process. So in an act of imagination, I am conscious of the mental image formed as well as of the act of forming it. It is thus apparent that consciousness reveals both the mental act and the mental product resulting from the act.

Conscious of the Object.—Sir William Hamilton goes a step further, and says that we are conscious of the object of a mental act as well as the act and its product. Thus in perception we are conscious of the object which we perceive; for, he asks, how can we know that a perception exists if we do not know what we perceive? How would I know I perceived a rose, if I was not conscious of the rose? "Annihilate the object, and you annihilate the operation; annihilate the consciousness of the object, you annihilate the consciousness of the operation."

II. PRODUCTS OF CONSCIOUSNESS.—Having seen the general character of the products of consciousness, let us see what are its revelations in connection with each one of the various faculties.

In Perception.—In an act of perception we are conscious of two distinct elements, the subject perceiving and the object perceived. In every case of perception there is a clear apprehension of these two elements,—the self and the not-self, the ego and the non-ego. Thus in the perception of a tree, I am distinctly conscious of the tree as seen and of myself as seeing it. Whether this was an original distinction or is one derived from experience, has been questioned. That we have made this distinction from our earliest recollections, we know; and it would thus seem to be a primitive fact of our nature. At any rate, it is a present fact of consciousness, and must be accepted as such. We never for a moment do imagine, nor can we imagine, ourselves and the object perceived to be one and the same. If the object of perception is merely an affection of the organism, as in smell and hearing, the affection perceived is cognized as distinct from the mind perceiving it. In every act of perception, a self and a not-self are brought face to face, and are known as distinct from each other.

In Memory.—In memory we recall the object of thought and represent it by an image or a word, and recognize it as a fact of our previous experience. We are conscious of the act of recalling (when the recollection is not spontaneous), of the representative object before the mind, and of its relation to our past experience. This, however, is all that is revealed. There is no consciousness of anything outside of the mind itself. We may be conscious that the image before the mind bears some relation to an object without the mind; but the external object is not contemplated as present, and is itself not an object of consciousness. In memory, therefore, there is a consciousness of an image or some general product in the mind, of the fact of this having been retained, of the act by which it was restored, and of the recognition of it as a thing of our former experience.

In Imagination.—In an act of imagination we are conscious of the act of representation and of the product thus formed. We are conscious of the materials used in the formation or creation of this product, whether of sight or sound. We are also conscious that the image produced is not a representation of anything real which we have before seen or heard, but that it is a mere creation of the mind. In memory we know that the mental product is a representative of something real; in imagination we know that it is an ideal of the mind's own creation.

In the Understanding.—The same thing holds true in respect to the operations of the understanding. In this faculty we are conscious of the ideas and truths,—the materials with which we work,—of the acts by which we elaborate them into new products, and of the products which result from these operations. In judgment we are conscious of the act of comparing, of the objects of thought compared, and of the thought which results from the comparison. So in reasoning we are conscious of our premises, of the relation between them, and of the inference or truth derived from these relations.

In Intuition.—In an act of the intuitive power, we are conscious of the ideas and thoughts to which it gives rise. We are conscious of the ideas of Space, Time, Cause, the True, the Beautiful, the Good, etc., and also of the belief that these have an existence outside and independent of our minds. We are also conscious of the infinitude of Time and Space, of the infinite chain of causation, of the logical necessity of a First Cause, etc. We are also conscious of the truths of intuition, as the axioms of geometry and logic, of the necessity and incontradictability of these truths, etc.

In Sensibility and Will.—So also in the domain of Sensibility and Will; consciousness reveals all that pertains to the activity and results of these powers, to their processes and their products. We are conscious of each individual feeling, and when attention is directed to them, of the relations of these feelings, of their similarities and differences. In an effort of the will we are conscious of a choice when one is made, and of the executive volition to carry out this choice into action.

The Basis of Mental Science.—It is thus seen that consciousness lies at the basis of all mental activities. It is also the foundation of the study of mental philosophy. We know only what consciousness reveals, or what is properly to be inferred from these revelations. The test of a fact or phenomenon, in the study of mental science, is its revelation by consciousness. In other words, the mind must be studied in the light of consciousness. The student of mental philosophy must learn to bend the mind in upon itself to observe its own actions and products. He must test each fact and theory by his own experience.

III. Unconscious Mental Modifications.—The doctrine of *latent modifications of consciousness* has been held by several philosophers of eminence, among whom we may name Leibnitz and Hamilton. Some writers object to the expression "latent modifications" as being infelicitous; but it means to express that there are some affections of the mind of which we are unconscious. This doctrine may be shown to be true in respect to the activities of several of the faculties.

In Perception.—The senses are often affected by objects which do not rise into consciousness. Thus the greenness of the forest which we see is made up of parts of green of which we are not conscious. No single leaf perhaps is visible; but the greenness of the forest is made up of the greenness of these leaves. That is, the total impression of which we are conscious is made up of an infinitude of small impressions of which we are not conscious. The same is true of the sound of the sea; a single wave does not seem to affect the ear, while the combined sound of many waves is distinctly heard. Now, each wave must contribute its share in affecting the mind, or the whole could not be heard

In Memory.—The same seems to be true in respect to the memory. We find one thought rising in consciousness immediately after another, but without any perceptible relation between them. In such cases Hamilton holds that the links which united them did not rise into consciousness: just as in a row of billiard balls touching one another, if the first ball is struck, the force is transmitted to the last ball, which flies off, while the other balls remain stationary. The intermediate balls represent the intermediate ideas in the chain of association which do not rise into consciousness in the case supposed.

In Other Faculties.—The mind may probably be affected in every faculty by modifications which do not rise into consciousness. These unconscious affections give a bias to the mind, and affect those acts and states of which it is conscious. There are, no doubt, thousands of unconscious influences operating upon the soul, that give a tinge of coloring to our thoughts and feelings, and help to shape our opinions and characters.

Slight Attention.—Many instances cited of unconscious modifications are, however, probably examples of slight attention. An object may make so slight an impression on the mind as not to be noticed at the time, and yet may be revived with great distinctness. I write a letter to-day, and notice no error in my writing; to-morrow, after I have mailed it, I recall a misspelled word or a mistake in grammar. So some part of an object observed may escape my attention at the time, but afterward it occurs to the memory with great distinctness. These are not examples of latent modification of consciousness, but of slight attention.

IV. DEVELOPMENT OF CONSCIOUS KNOWLEDGE.—The revelations of consciousness are not fixed and unchangeable in their character. They differ at the different ages of each individual and at different ages of the world. New ideas and thoughts arise in the human mind, and the revelations of to-day are not identical with the revelations of yesterday or to-morrow. There is a significance in this fact that leads us to give it a brief consideration.

In the Individual Mind.—The growth of conscious knowledge is attested by the experience of each individual mind. New ideas and truths rise gradually into consciousness. The influences of our surroundings make impressions on the mind or the nervous system of which at the time we are unconscious. These impressions are repeated and react upon one another; and at last they emerge in consciousness in the form of an idea. A book read but once leaves only a vague impression of its thought and sentiment; the book re-read, or other books read treating of the same subject, may be the occasion of these vague impressions appearing in the form of definite ideas in consciousness.

Many ideas or impressions seem to stop in the outer court of unconsciousness, accumulating there and acting upon each other and upon the soul; they are at last lifted up into conscious cognition as definite intellectual products. The mind, as it were, transmutes the impression on the nervous system into spiritual entities; in other words, the living soul has a potency by which it can transform its unconscious impressions into knowledge, and lift them up out of unconsciousness into the light of consciousness. The poet had a faint glimpse of this when he wrote:

> "All thought begins in feeling,—wide
> In the great mass its base is hid,
> And, narrowing up to thought, stands glorified,
> A moveless pyramid."

In the Universal Mind.—This is true also of the universal as well as of the individual mind, as is attested by the experience of the race. In nearly every age some new truth or some new phase of an old truth has dawned upon the consciousness of humanity. At one time a nation believes in, or is indifferent to, the practice of human slavery; in a few years there grows up in the consciousness of the nation such an abhorrence of the institution that dealing in human chattels would be regarded as a crime of deepest dye. Governments are revolutionized and thrones drenched in blood through the development of a new idea of freedom or a clearer recognition of some old one. Even religion has gradually developed new ideas in the consciousness of the world. A few centuries ago it was not thought to be wrong to persecute and punish for a difference of religious belief; but gradually the great idea of religious toleration has dawned upon the human soul, and the broad spirit of Christian fellowship enfolds in its embrace all who follow the teachings of the Master.

Ideas Indicate an Objective Reality.—The gradual development of ideas and opinions in the human mind indicates some corresponding objective reality. The cognitions of the qualities of color and sound have their counterparts in the objects of the natural world. The ideas and truths of mathematics are but conceptions of real relations of form and number. The great conceptions of Space, Time, Cause, the True, the Beautiful, and the Good, have their objective realities in the universe around us. So the recognition of the rights of man, of the inalienable right of freedom, of liberty of conscience, etc., are all the cognition of great ideas or truths that no enlightened thought would now attempt to question or deny. The law is, that the gradual and universal development of some definite and intelligent belief indicates the actual existence of that which is believed.

Our Religious Beliefs.—This gradual development of ideas and thoughts in the human consciousness has a deep significance in respect to religious faith. The universal belief in Immortality and God, it would seem, must be accompanied by the correlative fact of their actual existence. The idea of God in the soul attests the idea of God in the universe. Influences have been at work through the ages to develop more and more clearly the grand ideas of God and Immortality; and these influences must have come from and are a proof of an actuality of existence. Whether the idea of God was put into the mind by the Creator at the beginning, or has dawned slowly in the consciousness by the process of evolution, its present appearance there indicates an actual correlative existence apart from the mind conceiving it. As ideas of material things in the soul attest the existence of material things without the soul, so must ideas of spiritual things indicate and attest the existence of spiritual things. The spiritual can impress the soul and leave its traces there as well as the material; and a recognition of this principle will enable one to meet modern skepticism upon its own ground and defeat it with its own weapons.

CHAPTER II.

THE CULTURE OF CONSCIOUSNESS.

THE intimate relation of consciousness to the different faculties of the mind renders it difficult to give a discussion of its culture without touching upon that of the other faculties. Its culture in its objective phase will be discussed under Attention; its culture in its subjective or reflective phase is appropriately considered here. The development of the mind is influenced by both our conscious knowledge and the unconscious modifications of the mind; and the natural consciousness, as we have seen, may be developed into the reflective consciousness. We shall therefore discuss the culture of consciousness, or of the mind in relation to consciousness, under three heads: First, the culture through conscious knowledge; second, the culture through unconscious modifications; and third, the culture of the reflective consciousness.

I. CULTURE THROUGH CONSCIOUS KNOWLEDGE.—The mind grows by its conscious modifications. Such modifications are its positive knowledge, and knowledge is the food of the mind Knowledge excites it to activity; it is the stimulus of mental action; and the mental powers are developed by activity. In knowledge the mind finds its nutriment, out of which, by assimilation, it gets its growth and development.

Uses of Conscious Knowledge.—The first object of the teacher is to labor to give the mind a large share of conscious knowledge. The pupil should be led to acquire clear and definite ideas of things. Care is to be taken that the mind does not rest in vague and confused impressions. Observation should be clear and distinct, thought should be definite and complete, everything that is misty or nebulous should be removed from the pupil's mental products; whatever he knows he should know with precision and thoroughness. A thing is not to be regarded as known until it is fully and completely developed in consciousness.

Knowledge Conscious by Attention.—Knowledge is made conscious by continuance of attention. An inattentive view of any object gives one a vague idea of it, but fails to afford a distinct and definite conception of the object. One or two points may be noticed, but the most of the parts of the object remain unnoticed, and have not affected us consciously. If, however, we look at the object with attention, every part of it makes a distinct impression on the mind, and a knowledge of the object and its parts becomes a matter of consciousness. We should, therefore, lead the pupil to attend closely to that which is presented to his mind, in order that the various impressions on the senses may emerge in consciousness and become a distinct cognition. The acquisition of such a habit of attention is one of the most important elements of education.

Knowledge Conscious by Analysis.—The analytic consideration of things aids in the production of conscious knowledge. An object seen as a whole leaves a certain impression on the mind; but though we may be conscious of its general appearance, we cannot bring its several parts distinctly into consciousness. The impression made by these parts has never risen into consciousness, and thus cannot be called up into consciousness. If, however, we analyze the object into its parts, we shall thus gain a distinct idea of these parts, and they, as well as the object itself, will be a possession of conscious knowledge. We shall thus avoid the vague and confused notions we often have of objects, and make our ideas of them clear, definite, and precise. Analysis is thus one of the conditions of making impressions appear in consciousness, and thus of the production of distinct and definite ideas of things.

Knowledge Conscious by Repetition.—Impressions upon the mind may be made to arise in consciousness by repetition. A slight impression may not arise into consciousness at all; let the impression be repeated several times, and it will make its appearance in consciousness in the form of a distinct sensation or cognition. Thus, a person may speak to me when I am absorbed in some object of thought, and I may not hear him; but if the same words are repeated several times, even in the same tone, I will become conscious of them. Repetition is thus a condition for an unconscious impression to rise into consciousness. Repetition is also a condition for the ready recall or reproduction of an idea in consciousness. Many ideas rise into consciousness, and then sink back into unconsciousness, and we are unable to call them up again. If the impression is repeated several times, the modification of mind which occurs causes the idea to rise spontaneously into consciousness, or enables us to recall it readily at our will. Repetition is, therefore, one of the important means of furnishing the mind with conscious knowledge.

Knowledge Conscious by Interest.—We may bring the unconscious into consciousness by arousing the interest of the mind. We grasp most clearly, and remember best, those things in which we feel the deepest interest, or which excite the mind the most. A thousand things impress the senses daily, which we are neither conscious of at the time nor remember afterwards. Many things we hear leave no impression on consciousness, but seem to "go in at one ear and out at the other." The things we do remember are usually those in which we felt the deepest interest. Thus, a man on trial for his life will remember with minuteness the evidence, appearance of the witnesses, etc.

Conscious by Subsequent Interest.—Even a subsequent interest in unconscious mental impressions will seem to enable us to revive them. Two men may be talking in a room in which I am engaged, and I hear and remember nothing that was said. Their conversation may have made some impression on the brain, but not enough to occasion the formation of an idea which appears in consciousness. Subsequently there is a lawsuit, in which my evidence in the matter is of value, and I endeavor to recall what was said, and can, by effort, bring some things up into consciousness. My interest in the subject of conversation has caused an otherwise unconscious idea to rise into consciousness. Thus interest may take the place of repetition, and even do what repetition could not have done.

Increase Conscious Knowledge.—The teacher should labor to increase the conscious knowledge of the pupil. By conscious knowledge is meant that which we may at any time bring before consciousness. In a certain sense, nearly all of our knowledge is potential rather than actual. We can be conscious of certain ideas if we will to be, but actually we are conscious only of the idea or ideas which are at the present moment before the mind. Ideas rise up out of unconsciousness, and sink back again into unconsciousness; and in a certain sense we know only that of which we are at any time conscious. The conscious part of our mind may be compared to that part of a wheel which touches a tangent, while the rest of the wheel may represent the unconscious part. Every part of the circumference of the wheel may be made to touch the tangent, but only one part ever does touch it at any one time. Mental culture endeavors to enlarge this knowledge that it may become conscious; and also to facilitate the calling of the unconscious into consciousness. Carrying out the figure, we may say it aims to increase the size of the wheel, and also to facilitate its revolution at the command of the will.

II. CULTURE THROUGH UNCONSCIOUS KNOWLEDGE.—The mind may be cultivated also through its unconscious modifications, which for convenience we may call its unconscious knowledge. The mind is affected and moulded by impressions that do not rise into consciousness. These unconscious influences are of vast importance in education, and should not be overlooked by the teacher and educator. A few remarks will be presented to indicate the value and use of this unconscious knowledge.

The Unconscious in Perception.—And first we remark that much of our knowledge, perhaps the most of it acquired in early life, is attained unconsciously. It is in this way that the child learns the fundamental facts of the world and of life. Our lives are object lessons, and the larger part of what we learn comes to the mind, we know not how or when. We see the relation of objects in nature, and though we know nothing of the laws of perspective, yet when we look at a picture in which these laws are violated we immediately detect the error. We learn music and dancing in an unconscious way with ease; if we should attempt to learn each note and step by rule, the task would be much more difficult. The child is unconscious of the way in which it learns to walk and talk, but it learns these arts much faster than if it could comprehend the rules and directions for the different acts.

The Unconscious in Memory.—The unconscious modifications of the mind may be of value in memory. I may not be able to recall an object or a fact, and yet be able to recognize them if they are again brought before my mind. I may know a person so that I could recognize him if I met him, and yet be entirely unable to describe him. We may be unable to tell whether a friend has black hair or brown hair, or whether the eyes are blue or gray; and yet our knowledge of his appearance is a real, practical knowledge to us, and we would immediately know it if any change had taken place in his looks. We meet a friend after several years' absence, and say, "How changed you are," but are unable to tell in what the change consists. It is said that a person, on being asked, could not tell whether his father wore a moustache. We have not a distinct recollection of most of the objects we see around us; we are unable to describe the pictures in our room or the carpet on our floor, and yet how quickly we would notice a change in these objects. This unconscious knowledge is of real value to us, and should be taken an account of in education.

The Unconscious in Thought.—Our unconscious knowledge influences and modifies our thinking. Our judgments and opinions are modified by the unconscious modifications of our minds. The impressions from the circumstances and surroundings of early life, most of which never rise into consciousness, and which we may not be able to call up into consciousness, affect our ideas and thoughts, and mould our opinions. Indeed, it is probable that the subtle and intangible influences of which we are unconscious do more to mould our mental characteristics than those influences of which we are conscious. As the peculiarities of the soil give a peculiar fragrance to the rose and flavor to the grape, so the unseen and unfelt influences that surround us in early years give color to our tastes and shape to our thoughts and expressions. We may not remember one in a hundred of the refined sentiments we heard fall from the lips of cultured men and women, but they have all left an impress behind, and have touched our souls "to new issues." We have forgotten the incidents of the books we read, and cannot quote a dozen of their sentences, yet we think and write differently from what we should have done had we not read those works. Genius is partly due to early influences of which it is unconscious, as well as to natural gifts. These facts being admitted, the great advantage of the unconscious in the culture of thought will be readily appreciated.

The Unconscious in Language.—Language is learned at first as an unconscious acquisition. The majority of words are acquired unconsciously. Who taught us the meaning of such words as *here, now, to be, to do, beauty, virtue,* etc., we cannot tell; and yet we use those words correctly. The delicate shades of meaning which we attach to words we learn, not from the dictionary or from definitions, but mainly by our reading. Our best lessons in grammar are learned, not consciously from the textbooks, but unconsciously from hearing or reading good English. So a foreign language is much more readily learned by hearing it spoken, or, after one gets a slight knowledge of grammar and a brief vocabulary, by reading some book in the language, until, as some one says, "we tumble into it rather than learn it."

The Unconscious in Opinion.—Our prejudices and opinions are largely moulded by the unconscious modifications of our minds. Our estimates of persons and books are often due to impressions which we cannot define, and which are not definitely cognized. We meet a stranger and are attracted or repelled by him, we cannot tell for what reason. The title of a book often, by some impression it makes upon the mind, which we never put into a proposition, leads us to read or neglect it. A writer says that he refused to read "Adam Bede" because the title seemed flat and insipid; and this was also the experience of the author of this work. Indeed, we believe that many of the opinions of mankind are prejudices based upon influences and impressions that have never risen into a definite form in the consciousness. The significance of these facts cannot be overestimated, and they deserve the serious attention of the educator and teacher.

The Unconscious in Character.—The unconscious modifications of the mind exercise an influence on the development of character. The refinement of a mother's words and manners, the upright life and unremembered expressions of a father, leave their impress upon the soul, and show themselves in our own actions and moral sentiment. The boy who is surrounded by vulgar companions may not remember a tithe of the vulgarity which he has seen or heard, but it has lowered his sense of refinement and soiled the purity of his imagination and taste. The boy or girl comes out of a home of culture and refinement with that subtle peculiarity of manner and expression which we call good breeding.

Even the physical influences that surround us in early life help to mould our character and change our tastes. The spirit of beauty steals insensibly into the soul and tunes it to heavenly aspirations: the grandeur of the mountains, or the sublimity of the wide-spreading ocean, seems to give strength to thought and elevation to sentiment. The educator should appreciate the influence of these unconscious modifications upon the soul, and make use of them in the development of that highest product of education, a *noble character*.

III. CULTURE OF PHILOSOPHICAL CONSCIOUSNESS.—The natural consciousness, as we have seen, may be developed into the reflective or philosophical consciousness; and such development may be secured by proper culture. The time for such culture is not childhood or youth; it is rather adapted to the mature mind. The young mind operates objectively rather than subjectively; it is not until the mind begins to ripen in the process of thought that it begins to turn its gaze within and reflect upon the operation of its own faculties. A few suggestions will be made in respect to this culture.

Practice Reflection.—The student should acquire the habit of reflection. He should be led to look in upon his own mental operations, and note the working of his own mind. This will be difficult at first, but practice will render it comparatively easy. He may notice the growth of an idea of perception, trace the act of the mind in calling up anything out of unconsciousness into consciousness, analyze a judgment or process of reasoning, and watch the coming and developing of the ideals of the imagination.

Should be Persistent.—This attention to mental phenomena should be continuous and persistent. The mind should be held to the contemplation of any mental phenomenon until it is distinctly observed. This presents a difficulty, since the mental act or state exists but for an instant; it comes and is gone, and when we attempt to look at it, it is not there. We can, however, practically prolong the act or state by repeating it. What we fail to notice at one view we should try to notice at another view; what we faintly apprehend at first sight we may fix and confirm at a second observation. Past experience can be brought before the mind in an act of memory and reviewed. There is an advantage, too, in this, since the interest in the idea or thought at first may interfere with our examination, but when brought back by the memory, when the curiosity is satisfied and the feelings are calmed, we can give more energy to the contemplation of the idea or feeling itself.

Should be Minute.—We should cultivate the power of close and minute observation of the acts and states of the mind. In the power to do this we find the difference between the peasant and the philosopher. All persons possess the same natural consciousness which notices the broad facts of mental experience; but the reflective consciousness detects many things that are not noticed by the ordinary natural consciousness. To cultivate this reflective consciousness we must learn to fix our attention upon the acts and states until the minute and occult phenomena are clearly perceived.

Should be Comprehensive.—We should cultivate the power of comprehensive observation of mental phenomena. Our view should embrace not merely a part, but all of the mental phenomena. No partiality of taste or natural bias of the mind should lead us to concentrate the attention upon one class of mental phenomena, to the neglect of another class. Neither should any preconceived opinions in respect to mental phenomena make us unfair or partial in our examination. We want the entire truth, and not a mere partial or one-sided view of the facts, so that our inferences from them may be correct.

Should Grasp Relations.—We should aim to give consciousness the power of grasping the *relations* of mental phenomena. The comparison of ideas or objects of thought and the detection of relations is one of the earliest activities of the mind; and consciousness should recognize these comparisons and relations. We must, in consciousness, place the facts of mind side by side, and grasp them in their relations. Consciousness must learn to cognize the mental processes by which the mind elaborates its knowledge. The mind perceives the similar and the dissimilar, it judges and reasons, it classifies its knowledge, and seeks for the causes and laws of things, and builds up the temples of scientific truth. The aim of the culture of consciousness is to enable it to become conscious of these processes, and the relations which they unfold. This is really the first great step in the culture of the reflective or philosophical consciousness.

Should Grasp Laws and Causes.—We should train the consciousness also to grasp the *laws* and *causes* of mental phenomena. The mind has its laws or fixed methods of operation, as well as matter; and the higher philosophical consciousness aims to grasp them. There are also causes of certain mental phenomena, as well as of material phenomena, and we should endeavor to acquire the power of a conscious insight into these causes. We should endeavor to interpret the facts and phenomena presented, to find the underlying principle that gives form to the facts, to reach down to the nature or essence of things, and seek to know them in their ultimate principles. Here the consciousness attains its most perfect development, and man becomes the philosopher.

IV. ABNORMAL CONSCIOUSNESS.—Occasionally we find an abnormal activity of consciousness which is both an injury to mental activity and a source of personal unhappiness. It is the duty of education to recognize and attend to these unnatural conditions of consciousness, and, so far as possible, to remove them. Dr. Porter has so clearly developed and happily expressed this subject that I can do no better than reproduce it in his own words.

Among Children.—"The abnormal or the morbid self-consciousness is distinguished by any degree of attention to one's own psychical state which interferes with the normal use and development of the powers. Children are appointed by nature to an objective and, in one sense, an animal life. But, now and then, a child, through an unfortunate bias, or some ill-judged training, has learned to look inward upon itself with unnatural precocity. As a consequence, the subjective predominates over the objective, the tendency to reflect hinders the tendency to acquire, and that easy and spontaneous play of observation, memory, imagination, wit, and invention, which is the strength and the charm of childhood, is excluded or hindered."

Among Adults.—"Among adults, frequent examples occur of a morbid or unnatural attention to the inner life. Hypochondriacs, who are haunted by disturbing sensations which proceed from bodily disease, till their attention is so absorbed in watching these sensations that it cannot respond to the objects that are fitted to amuse and incite to action, furnish one example. Men who have inherited or indulged a sensitive nature till it has become their tyrant, who watch their feelings with a selfish exclusiveness or who pamper them with a dainty fastidiousness, like Rousseau, may become half insane through brooding over their own exaggerated sufferings and wrongs."

Self-Consciousness.—"Another type of the abnormal consciousness is that which results from an egoistic thoughtfulness of one's appearance, manners, words, looks, actions, or achievements, which shows itself in the countless forms of affectation that are displayed in manners, art, or literature. So common has this become in the artificial society of modern times, that it has given a new sense to the words *conscious* and *consciousness*, with and without *self* as a prefix." To be conscious of one's self is to destroy that simplicity and naturalness of character and behavior which is attractive and admirable.

Cure of Abnormal Consciousness.—Much can be done by proper culture to cure the abnormal action of consciousness. The general suggestion is to interest the mind in things without itself. The attention should be led from the subjective to the objective. For this purpose the study of natural science, visiting objects of interest, a trip to a foreign country, will be of value. Anything that keeps the mind away from itself, and occupies it with external objects, will aid in curing this unnatural condition. Such culture, too, is of great importance; many a case of permanent melancholy, or even insanity, might have been prevented by careful and judicious treatment. The tender and thoughtful companion of Cowper, by her care and the gentle occupations in which she led him to engage, saved his mind from insanity, and thus gave us several of those exquisite productions of his rare poetical genius.

CHAPTER III.

THE NATURE OF ATTENTION.

ATTENTION is the power of directing the mind to one object of thought to the exclusion of all others. It is the power of selecting one of several objects, and concentrating the mental energies upon it. The term is derived from *ad*, to, and *tendo*, I bend, meaning a bending to or towards, and was suggested probably by the attitude of the body in an act of close attention to an external object.

Illustration.—Thus, suppose I am standing at the window with my eyes open; a hundred objects are mirrored upon the retina; I select one of these objects and fix my mind upon it, to the exclusion of all others; this is an act of attention. I sit in the porch on a summer evening; a score of sounds are blending in the chambers of my ear; I have a general impression of them all —perhaps a distinct idea of none. I select one or more from the collection, and fix my thoughts upon these, withdrawing my mind from the others. This is also an act of attention.

Subjective and Objective.—Attention may operate either objectively or subjectively. Thus we may fix our attention on an external object, as a bird or a tree, or upon any part or quality of the object, as the form or color. In this case the attention operates objectively. We may also fix our attention upon some operation or state of the mind, as a sensation, an emotion, or a volition, or upon any product of the mind, as an idea or a thought. This is the subjective phase of attention. In this latter form, attention is very nearly identical with what Locke calls Reflection.

Relation to Consciousness.—Attention appears to be closely related to consciousness. It seems to be a directing of consciousness to the acts and states of the mind. Dr. Wayland describes it as a sort of voluntary consciousness, a condition of the mind in which consciousness is excited and directed by an act of the will. This applies especially to the subjective phase of its operations.

Attention and consciousness are not, however, identical. Attention is consciousness and something more; it is consciousness voluntarily applied to some determined object; it is a sort of concentrated consciousness. Hamilton says: "Consciousness may be compared to a telescope; Attention is the pulling out and pressing in of the tubes in accommodating the focus to the eye."

Positive and Negative.—An act of attention involves both a positive and negative operation of the mind. It consists in turning away from some things and in turning toward other things. The first act consists in excluding and refusing to consider some objects,—a negative process; the second act consists in a voluntary effort to consider others,—a positive process. Negatively, we arrest or detain certain powers in their operations; positively, we direct or command other powers to put forth their operations. The negative element has been compared to the detent in machinery, which checks the wheels in rapid motion and gives opportunity for any desired change. The positive action may be compared to putting the belt upon the wheel to be turned, thus concentrating the power of the machinery upon it.

The principal element, however, is the positive element. The mental effort is not so much to withdraw the mind from the many, as to concentrate it upon the few or the one. We make our choice of some one of the various objects claiming our attention, and fix the mind upon it, and the others by necessity retire from our thoughts.

Relation to the Will.—Attention is partly an operation of the will. It is an intentional mental effort, a designed directing of the mind to some object of thought, a voluntary concentration of consciousness. But though intimately related to the will, it is not identical with it. All will-power is not attention. It is merely the will-effort that directs and concentrates the mental activity, or that voluntarily observes any faculty in its action.

Not Absolute Control.—Attention is not under the absolute control of the will. We are sometimes determined to an act of attention independently of the free volitions of the will. When absorbed in thought or study, a person may speak to us, or a clock may strike, without our being conscious of the sound; but it is impossible to remain in this state of unconsciousness intentionally, and by a direct effort of the will. We cannot determinedly refuse to hear by voluntarily withholding our attention; and we cannot open our eyes, and by an act of will arrest our minds from all perceptions of sight. We may close our eyes or stop our ears; but cannot, with our organs unobstructed, wholly refuse to see and hear.

Involuntary Attention.—Sometimes attention seems to act independently of the will. The mind is attracted by something without instead of being urged by something within. We often find ourselves looking, listening, thinking, etc., without any conscious effort on our part, and without seeming to have willed it. We sit down to read, and in a few moments find ourselves dreaming, or pursuing a rambling train of thought, unwilled and unwished. We walk out in the spring-time and find our minds attracted by a beautiful flower, the song of a bird, or the rippling of a rivulet, without any conscious effort of our own. Such facts, common to the experience of all, prove that the attention often acts independently of our free volition.

Three Degrees.—In view of these considerations, Sir Wm. Hamilton holds that attention is of three degrees or kinds. The first is a mere vital or irresistible act; the second is an act determined by desire, which, though voluntary, may be resisted; the third is an act determined by deliberate volition.

Not a Faculty.—Attention is not regarded as a distinct faculty of the mind. It is not a distinct form of mental activity, but is involved in and underlies the activity of all the faculties. It is subsidiary to the different faculties, acts with them and in them, seeming to constitute an essential part of each mental activity. The voluntary operation of any of the mental powers, as perception, memory, etc., carries with it an act of attention.

Again, attention is not a power of knowing, but of directing that which may know. Of itself it originates nothing, teaches nothing, puts us in possession of no new ideas or truths, has no distinct field or province of its own. Yet without it the other faculties would be of little use to us. Attention doubles the efficiency of these faculties, giving them a power of which they would otherwise be destitute.

Two Questions in Respect to Attention.

There are two interesting questions discussed by writers on mental philosophy which are entitled to a brief consideration. The first of these is,—Can we do anything without attention? The second is,—Can we attend to more than one thing at the same time?

I. Can we do Anything without Attention?—The first question is, can we do anything without attention? We have learned to do many things with great facility, so that they often take place when our minds seem to be attending to something else. Do they really take place without any degree of attention, or is the attention so slight that we do not notice it? Thus, I sit at a piano running over some familiar piece of music, and at the same time am engaged in conversation with a friend. My fingers seem to wander among the keys *ad libitum;* does each note or each movement of the fingers require an act of attention? Or, if the piece is a difficult one, and I am giving general attention to it, is there a special act of attention in producing each note?

Actions Mechanical.—Upon this question two distinctly opposite views have been obtained. Dr. Reid and others, especially students of physiology, hold that these and many similar acts are automatic and mechanical, and do not involve any mental activity, and thus no attention. The mind, they hold, "forms the general purpose to execute the given piece, but the particular movements and muscular contractions requisite to produce the individual notes are, for the most part, involuntary." The motions follow one another as a matter of habit, and do not require a special volition or act of attention. As a proof of their position they cite the fact that we have no recollection of any acts of attention.

Actions not Mechanical.—Mr. Stewart and some other writers take the other side of this question, holding that such actions, however rapid, do involve some mental activity, and consequently some attention. The attention and the volition, they say, are instantaneous, and make so slight an impression upon the mind that there is no recollection of it afterwards. The fact that we do not recollect the volitions is no proof that we did not exercise them. A piece of music can be played so slowly that we can observe the special act of attention and volition to each note and recall them afterwards. "The difference of the two cases," it is claimed, "lies in the rapidity of the movement, and not in the nature of the operation."

Objection and Reply.—The objection offered to this view is that it requires too great rapidity of mental action. Take a public speaker for instance, who speaks from one to two hundred words in a minute; each word consists of four or five elementary sounds, and each elementary sound requires several muscular contractions. To attend to each would require two or three thousand acts of attention in a minute. Is it possible for the mind to act with such rapidity? This objection, however, carries with it its own answer: for if the body can act with such rapidity, it is surely not impossible for the mind to do so.

Actions not Automatic.—To illustrate the rapidity of actions not automatic, but which require constant attention, Mr. Stewart cites the case of the equilibrist, who, while balancing himself on a slack-rope, balances a number of balls in various ways. Here the position changes every instant, and in order to keep himself and the objects from falling, every change must be noticed and the position adjusted accordingly. These movements cannot be the result of an inseparable association of ideas, as in piano-playing, for they do not follow any regular order, and could not, if tried thousands of times. It is evident that in this case the performer must pay close attention to every action; for if the mind be diverted for a moment, the actor or his balls will fall.

The Question Decided.—It is not easy to decide this question, though I believe there is truth on both sides of it. It must be admitted that many actions are automatic and mechanical. There is a tendency for muscular movements, once associated, to be repeated in the order of association. Many of the movements in speaking, walking, piano-playing, etc., are no doubt purely mechanical. It can hardly be supposed that each muscular contraction of the vocal organs, when we talk, receives a special act of attention. The doctrine of reflex nervous action leads to the same conclusion. It must also be admitted that there are mental acts which make so little impression upon consciousness that they are not subsequently remembered, and that some actions which seem to be automatic do really require an act of attention.

Hamilton's Explanation.—Sir William Hamilton presents an interesting explanation of the subject by the principle of latent agencies—that is, by mental operations of which we are unconscious. In respect to our acquired habits and dexterities, as speaking, playing, etc., he holds that many of the mental activities do not rise into consciousness. He concedes to the mind a conscious volition over the series, but denies to it a conscious and deliberate volition in regard to each separate movement in the series which it determines. At first and before the habit is acquired, every act is slow, and we are conscious of each mental action; but at length the acts become secure and precise, the speed increases, the individual acts drop, one by one, out of consciousness, as we lose the leaves in retiring from a tree; and at last we are aware only of the general state which results from these unconscious operations.

II. NUMBER OF OBJECTS OF ATTENTION.—The second question is, can the mind attend to more than one object at the same time? Thus, when I am playing the piano and, at the same time, am engaged in conversation, do I attend to the playing and the talking at the same time, or does the mind pass from one to the other? And so when the equilibrist balances himself and a number of objects on different parts of his body, does he attend to more than one of these at any particular instant of time?

Negative View.—Several philosophers answer this question in the negative. Dr. Brown holds that the mind cannot exist, at the same moment, in two different states—that is, in two states in either of which it can exist separately. He would have us believe that we cannot feel the sensations of fragrance and cold at the same time. The same doctrine is taught by Locke, at least by inference, in his inquiry whether the mind can have "different, nay inconsistent and opposite (as those of white and black must be) modifications at the same time."

Stewart's View.—Stewart distinctly teaches that we cannot attend to more than one object of thought at the same time. He says the mind passes with such rapidity from one object to another that it is unconscious of the transition, and seems to be attending to both objects at once. Thus in the case of vision, only one part of an object is at any one instant in the direct line of vision; but the eye passes so rapidly from point to point that we seem to see the entire surface at a glance. So in viewing a mathematical figure of many sides, we view each side by a separate act of attention, till we have passed around the entire outline. He says there is a *minimum visible*, which is the smallest extension of color or shaded light by which the eye can be affected. He speaks also of a *minimum audible* in respect to hearing.

In Comparing Objects.—In comparing two objects, as A and B, it is held that the mind does not think of both objects at once; that while I am thinking of A I have no thought of B, and while thinking of B I have no thought of A. In an act of comparison, the mind passes rapidly from one object to the other; so rapidly that the same effect is produced as if both objects were actually before the mind at the same moment.

Affirmative View.—On the contrary, it is held by able thinkers, that we can attend to more than one thing at a time. Leibnitz, in answer to Locke's inquiry whether the mind can have inconsistent and opposite modifications at the same moment, holds that it can. Sir William Hamilton takes the same view. This view seems to be the correct one, as will appear from several considerations.

Consciousness Affirms It.—An appeal to consciousness seems to affirm this view. When I look at a small object, as a pin, it surely seems that I can see the head and shaft at the same identical moment. So, in looking at my hand, I feel sure that I can see two or more of my fingers, or a finger and a thumb, at the same time. So when I listen to a duet, or even a four-part harmony, I am conscious that I hear the tones blended, and not first one and then another. Indeed, could I have the sense of harmony if I did not hear the tones at the same instant? I am conscious, also, as I sit in a room, that I can know, at any given instant, that there are several persons in the room with me; and that when I look out of the window I can see more than one single object.

Negative View Absurd.—The negative view seems absurd in that it assumes too much. If I can see or hear only one thing at a time, what and how large is that one thing? If I cannot see or hear two words at a time, then I cannot see or hear one word, for one word is made up of several letters or sounds. It follows, also, that I cannot see the whole of a letter, since a letter is made up of parts! Again, when I look out on a wide-spreading landscape, if I can see only the *minimum visible*, how long will it take me to see the entire landscape, which is so large as to contain the *minimum visible* a countless number of times?

In Comparing Objects.—This view is necessary in order to explain the comparison of objects. An act of comparison, as Hamilton remarks, supposes that we are able to comprehend, in one individual consciousness, the different objects compared. Were I conscious of only one object at a time, I could never bring them into relation; for when I was conscious of A I would not be conscious of B, and when conscious of B I would be unconscious of A. Thus no judgments could be formed, since the subject and predicate could not be united in thought; and thought and language would be impossible.

Number of Objects.—Admitting that the mind can attend to more than one object at a time, the question arises,—how many objects can it embrace at once? In respect to this question, some writers say that the mind can have a distinct notion of four objects, and others of six objects. Sir William Hamilton limits the number to six, and says it may be illustrated by throwing a number of marbles upon the floor, and grouping them in twos, in threes, in fours, etc.

Number not Definite.—It is to be doubted, however, whether the number of objects which can be embraced in a single act of attention can be definitely determined. Some minds will grasp more and some less; and the grasp of the mind in this respect is largely due to practice and cultivation. Besides, too, it will depend somewhat upon the size of the objects. It should also be remarked that clearness of cognition will be at its maximum when the mind is concentrated on a single object: that is, the greater the number of objects among which the attention is distributed, the feebler and less distinct will be its cognizance of each. The law is that distinctness of cognition is inversely proportional to the number of objects to which the mind attends.

CHAPTER IV.

THE CULTURE OF ATTENTION.

HAVING explained the general nature of the power of attention, we now proceed to the discussion of the methods of its cultivation. We shall treat the subject under three general heads; the importance of habits of attention, the methods of cultivating attention, and the way to secure the attention of pupils.

I. IMPORTANCE OF HABITS OF ATTENTION.—The importance of habits of attention cannot be overrated. The power of controlling one's own mental faculties, of directing them at will into whatever channel the occasion may demand, of excluding from the mind all irrelevant ideas, and concentrating the mind on the one object of thought, is a power of the highest value. It is in this that we find the principal difference between one mind and another in the realm of thought and knowledge. Mental power is, to a great extent, the power of attention. One of the principal elements of genius is strength of will to control the mind and command the mental energies.

To all the Faculties.—Attention is of great value to all the faculties. It is involved in and inseparably connected with the exercise of these faculties, giving them their direction and increasing their power. It conditions their activity, and is a measure of their strength and attainments. Its value in relation to each one of the different faculties will be briefly noticed.

To Perception.—The power of perception is mainly due to the power of attention. In an act of perception we need not only the open senses, but also the attentive mind. Mere gazing is not sufficient; we need the concentration of the mind in order to perceive. Too many persons have eyes and see not, ears and hear not, fingers that touch and yet communicate no knowledge. A large share of the perception of the world is inattentive and careless.

Attention, in relation to perception, is like a microscope to the eye. I look at a flower and perceive many things concerning it; I place a microscope to my eye, and thus see points of interest I never dreamed of before. So attention seems to concentrate the rays of perceptive power, revealing thereby that which was previously unperceived. In its relation to perception, attention may be called a mental microscope.

To Memory.—Attention gives power to the memory. It gives clearness of conception, which is a condition of remembering. That which the mind has clearly apprehended, which it has carefully discriminated from other things, it takes firm hold of, and thus retains it in its mental grasp. Continuous attention also enables us to fix the idea, to give permanence to the impression. It acts like a kind of die which stamps the picture upon the tablet of memory. Without it, the greater part of what we hear or see would fade from the mind, as a shadow flits across the summer landscape.

Value to Thought.—Attention is to a very great extent the source of thought-power. Attention is mental concentration, and there can be no profound thinking without mental concentration. Unless the mental energies are concentrated, the mind indulges in rambling thought, goes out "wool-gathering," and returns empty-handed. To think closely and effectively, we must possess the power of directing the mind toward and holding it upon a subject with persistent energy.

Gives Penetrating Power.—Attention gives penetrating power to the mind; it is a kind of mental gimlet by which we bore our way into a hard problem or penetrate any subject difficult to investigate. Attention may also be compared to a sun-glass. I hold my hand or a piece of paper before a window, and the soft rays of the sunlight fall upon it with a pleasant glow and warmth. I place a sun-glass between my hand and the sun, and gather the rays into a focus so that I could burn a hole through an inch board. So attention seems to collect the scattered rays of thought into a focus, enabling one to penetrate the hardest subject of investigation.

Power of Concentration.—The concentration of the mind in attention is like the massing of troops in a battle. A fortification is stormed and taken by the concentration of a battalion. Every hard problem is a fortress to be captured, and we must unite our mental forces to capture it. Attention enables us to collect and hurl our whole mental force against the citadels of truth, and by persevering effort, carry them, as it were, by storm. Attention may be regarded as the commander-in-chief of our mental powers. If we wish to conquer truth, to capture and hold new territory, or to occupy and appropriate that which is already taken, we must concentrate our mental forces, and, like a successful general, determine to fight it out on that line.

Element of Thought-Power.—Attention is thus one of the principal elements of thought-power. It has been defined by some writers as "force of intellect." Minds differ, perhaps, more in this quality than in any of the faculties. It is to this power, more than to any other, that the highest attainments in science and art are due. Newton attributed his success to the power of attention. Being asked one day how he made his great discovery of the law of gravitation, he replied, "By incessantly thinking about it."

Element of Genius.—Attention is one of the principal elements of genius. This is the expressed opinion of a large number of eminent scholars and thinkers. Sir William Hamilton says, "Genius is a higher capacity of attention." Helvetius defines genius as "nothing but continued attention." Buffon says, "Genius is only a protracted patience." Cuvier remarks, "In the exact sciences, at least, it is the patience of a sound intellect, when invincible, which constitutes genius." Lord Chesterfield observes that "the power of applying our attention, steady and undissipated, to a single object, is the sure mark of superior genius."

II. The Cultivation of Attention.—Having discussed the nature and importance of attention, we shall now consider the various ways in which it may be cultivated. The importance of this discussion is evident from the importance of the power of attention.

By Exercise.—The power of attention is cultivated by exercise. Exercise is the great law of culture, either in body or in mind. The arm grows strong by exercise and becomes weak from disuse; so the power of attention will be developed by regular and judicious action, and will be weakened by careless and heedless mental activity. To cultivate the power of attention, therefore, we must give it judicious and habitual exercise. As the result of exercise, Cæsar could write one dispatch and at the same time dictate four others, or he could dictate seven. Philidor, the great chess-player, could direct three games at the same time. I knew a lady who in a sewing circle would at the same time sew, tell funny stories, and dictate two or three pieces to different copyists, for the paper of a literary society.

Practice Concentration.—To cultivate attention we should practice the concentration of the mind upon whatever we may be doing. We should never do anything without attention; nor should we usually divide the attention between several objects of thought. We should not allow the mind to wander, to flit about from one object to another like a butterfly flitting from flower to flower. Whatever we undertake to do, we should do with a will; we should concentrate the entire mental energies upon it until the work is completed. It is in this way that we may cultivate habits of attention.

In Reading.—We should always read with attention. Glancing hastily and carelessly over books or newspapers tends to weaken the powers of attention. Novel-reading, as often practised by young people, is especially injurious in this respect. Reading for the excitement of the story or merely to see how it terminates, without the object of relating or remembering the events, has a pernicious influence on the habit of attention. Every young person should be careful to acquire the habit of reading with attention.

In Study.—We should study with attention. Pupils who repeat the words of the book while their thoughts are upon something else, not only require much longer time to study their lessons, but also injure their powers of attention. An hour or two of close application will accomplish more than many hours of desultory study. In learning a lesson, it is not how long we study, but how hard we study. Teachers should be careful to see that their pupils acquire the habit of studying with attention.

In Mathematics.—The study of mathematics is especially adapted to cultivate habits of attention. These studies require close and concentrated thought, and thus lead to a habit of fixed attention. In solving a problem, we must concentrate the mind upon it, and we thus acquire the power of mental concentration. Mental arithmetic is especially valuable in this respect. it is a sort of mental whetstone, sharpening the mind and giving it the power of penetrating and unfolding the complicated conditions that meet us in the problems of science and life. Among the school studies, mathematics ranks first for the training of the power of attention.

Practical Exercises.—A teacher of young pupils may employ various exercises to cultivate their attention. He may have them look at some object for a few moments, as a flower or a fly, and then require them to describe it. He may read sentences, short at first and then longer, and have pupils reproduce them orally or in writing. He may read long combinations of small numbers in addition and subtraction, and have the pupils repeat them and perform the operations.

III. SECURING ATTENTION OF PUPILS.—A teacher must learn to secure the attention of his pupils. No high success in the art of teaching is possible without it. When every mind is intent upon what the teacher is explaining, it will be understood and remembered. When the minds of the pupils are inattentive and wandering, no permanent impression will be made; the words will, as it were, pass in at one ear and out at the other. Let it be remembered, too, that when a teacher fails to secure the attention of his pupils, he fails in his vocation.

Manner of Teaching.—A teacher can secure the attention of his pupils by his manner of teaching. A few suggestions on this subject will be of practical value.

1. *A teacher should be earnest in his work.* A spirit of earnestness on the part of the teacher will kindle a flame of interest in the heart of the pupil; and interest is the mother of attention. A teacher who shows no earnestness in communicating knowledge can expect none on the part of his pupils in acquiring knowledge.

2. *A teacher should have a clear view of his subject.* Clearness of conception leads to clearness of presentation; and clearness of expression is a condition of attention. A hesitating and obscure statement wearies the mind and dissipates the attention. It needs the clear sunlight of truth from the teacher's mind to illumine and attract the mind of the pupil.

3. *A teacher should not speak too fast.* Rapidity of utterance distracts the attention. The mind, unable to follow the teacher, loses the relation of facts and thus becomes confused and wanders away from what is being presented. This caution is especially important, since rapid talking is a common fault of teachers.

4. *A teacher's voice should be properly modulated.* The voice is the *open sesame* of the soul; a sweetly-toned voice charms the ear and wins the attention. A teacher should speak with natural and artistic modulation. He should not speak too low, for that will require too much of an effort to listen; nor too loud, for that confuses the mind and distracts the attention.

5. *A teacher's position before his class should, as a rule, be a standing one.* In this position a teacher naturally manifests more animation and interest in the subject. His attitude and gestures will attract the eye and do much to secure attention. Besides, he has a better command of his pupils and can check the tendency to a wandering mind. If a teacher who is seated rises before his class, he will find that he will instantly recall all wandering thoughts, and fix their minds on the subject.

6. *A teacher should be interested in his instruction.* This is the *sine qua non* of attention. Interest begets interest; the flame of interest in the teacher's mind will kindle a flame of interest in the pupil's minds. Attention cannot be compelled, it must be enticed; and the warmth and glow of the teacher's heart casts a glow of interest around a subject that makes it attractive to the pupil, and thus secures his attention.

Method of Teaching.—The teacher may do much to secure the attention of his pupils by his method of teaching. A few suggestions on this point will be of interest.

1. *The teacher should, so far as possible, teach without the text-book.* A book in the teacher's hand often seems to build a partition wall between the minds of the teacher and pupil. The constant reference to the book breaks the spirit of interest that should flow from one mind to another. Teaching without a book also inspires confidence in the teacher's ability, which is not an unimportant condition of attention.

2. *The teacher should assign topics miscellaneously.* If the pupils know the order of the topics or questions, they naturally allow the attention to wander so long as there is no danger of a question coming to them. When they understand that a question may fall anywhere, they keep wide awake, so as to be ready for it when it comes.

3. *A teacher should, so far as possible, use the concrete method.* This is especially necessary with young pupils. The mind follows the eye; and the attention is caught through the senses. What is seen is much more attractive than what is only heard or thought. Abstract subjects, even with older pupils, excite more interest when illustrations put them more clearly before the mind.

4. *The teacher should vary his methods of teaching.* Variety is "the spice of life" in the school-room as well as outside of it. The routine method soon loses its interest, and the mind becomes dull and weary. Vary the method and the mind is aroused with the novelty and the attention led captive at will.

5. *The teacher should not talk too much.* Too much talking

wearies the mind and dissipates the attention. There should be frequent questions to awaken thought and allow the pupil to develop knowledge for himself. Such an exercise will do more to attract and hold the attention than the most eloquent discussions of the teacher. Anything that arouses mental activity will secure attention.

6. *The teacher should often use the written method of recitation.* In a large class, when the subjects are topical, so few can be called on that the attention of those not reciting naturally wanders. In such cases, the written recitation can be associated with the oral one, thus holding the attention of every pupil.

Extent of Culture.—This power has been cultivated in a high degree by almost every one whose name is associated with the progress of science. Sometimes the power has existed to such an extent that it has almost degenerated into a disease. Cases are on record where persons have become so absorbed in thought as to be oblivious to what was taking place around them. Plato tells us that Socrates, when upon a military expedition, was seen by the Athenian army to stand for a whole day and a night, completely engrossed in the consideration of a single subject. When Syracuse was stormed by the Romans, Archimedes was so completely absorbed in the solution of a geometrical problem that he was first aware of the enemy by receiving his death-wound as he was bending over and drawing a diagram in the sand.

Joseph Scaliger, when a Protestant student in Paris, was so engrossed in the study of Homer that he became aware of the massacre of St. Bartholomew, and of his own escape, only on the day after the catastrophe. Cardan, the illustrious philosopher and mathematician, while upon a journey, became so lost in thought that he forgot both his way and the object of his journey. To the question of his driver whither he should proceed, he made no answer, and when he came to himself at night-fall, he was surprised to find the carriage at a standstill directly under a gallows. The life of Sir Isaac Newton is full of striking incidents illustrating the complete concentration of his mind upon the objects of his study.

THE INTELLECT.

I. PERCEPTION.

II. MEMORY.

III. IMAGINATION.

IV. UNDERSTANDING.

  - I. ABSTRACTION.
  - II. CONCEPTION.
  - III. JUDGMENT.
  - IV. REASONING.

V. INTUITION.

  - I. INTUITIONS OF THE TRUE.
  - II. INTUITIONS OF THE BEAUTIFUL.
  - III. INTUITIONS OF THE GOOD.

PERCEPTION.

CHAPTER I.

THE NATURE OF PERCEPTION.

PERCEPTION is that faculty of the mind by which we gain a knowledge of external objects through the senses. It is the power of cognizing external objects and their qualities. The term is derived from *per*, through, and *capio*, I take, and means to take or receive through the senses. It is sometimes applied to the act and the product of perception, as well as to the power of perceiving. Thus we say, my perception of the object was not very clear, or my perception was distinctly recalled.

The Percept.—The products of perception are properly called *percepts*. A Percept is a notion of some external object derived through any of the senses. In other words, a *percept* is that mental product which arises from the perception of an external object. A percept is, of course, an Idea,—the first of the two classes of intellectual products. Thus, my idea of *my father*, *my mother*, or of any *particular object*, is a percept. A percept is a particular idea, and embraces some particular form, color, size, etc. All proper nouns are the expression of percepts; and, *vice versa*, the mental products corresponding to proper names are percepts.

Ego and Non-Ego.—Perception gives us an idea of an external object. This object is cognized as having an existence distinct from ourselves. In an act of perception, therefore, consciousness recognizes the existence of two distinct elements; ourselves as perceiving, and an object perceived. This distinction is universal, and tacitly accepted by all men under all circumstances, and is thus to be regarded as an accepted postulate of mental philosophy. These two elements are distinguished as the subjective and objective elements in perception, called also the *me* and the *not-me*, the *ego* and the *non-ego*.

The Organism.—The mind operates in an act of perception through or by means of a nervous organism endowed with sensibility, and capable of feeling impressions made upon it by the objects of the external world. This organism has its centre or origin principally in the head, in a form called the Brain. Impressions made upon the sentient organism by external objects are conveyed to the brain, and by some action of the mind become knowledge. The result of an impression of an object on the organism is a feeling which is called a *Sensation*. The act of knowledge arising from this sensation is called a *Perception*. The sentient organism is thus a connecting link between the mind and the objective world.

The Senses.—This nervous organism is arranged in different forms, capable of receiving different impressions. These different forms constitute what we call the *Senses*. There are five such distinct forms or senses, namely, Touch, Sight, Hearing, Taste, and Smell. Each one of these senses is the source of some particular kind of knowledge of external objects.

Conditions of Perception.—The conditions of an act of perception, it is thus seen, are: 1. The existence of a mind to perceive; 2. The existence of an object to be perceived; 3. The existence of a nervous organism capable of sensation; 4. Such a relation of the object to the organism that the former makes an impression on the latter. Given these four conditions, and an act of perception is possible; remove any one of them, and no act of perception could take place.

Divisions for Discussion.—Having given this general introduction to the subject of Perception, we shall now discuss it in detail under the following heads: 1. The Nervous Organism; 2. The Perceptive Process; 3. Remarks on Perception; 4. Perception by the Different Senses; 5. The Qualities of Bodies.

I. THE NERVOUS ORGANISM.

The first condition of Perception is the existence of a nervous organism called a *Sensorium.* Such an organism is the connecting link between matter and spirit; it is the pathway that leads from matter to mind, the avenue by which the qualities of the external world can pass into or become known to consciousness. The Sensorium consists of the *brain* and *spinal cord*, the *ganglia*, and the *nerves.* The student of mental philosophy should have some knowledge of each of these.

The Brain.—The brain is an egg-shaped organ situated in the cranium, surrounded by membranes, and consisting of two parts, the Cerebrum and the Cerebellum. It is composed of two kinds of substance; gray matter and white matter. The white matter consists of nerve-fibres supported in a delicate framework of connective tissue. The gray matter, in addition, contains a number of nerve-cells, or ganglionic corpuscles, some of them of considerable size. These cells are wholly absent in the white matter. The white matter seems to be associated with motion, and the gray matter with sensation.

The Cerebrum.—The Cerebrum occupies the front and upper parts of the skull, and comprises about seven-eighths of the entire weight of the brain. It consists of a mass of white fibres covered with gray matter. It is arranged in wrinkles or folds, called convolutions, which afford a large surface for the gray matter. The cerebrum is divided into two hemispheres, connected beneath by fibres of white matter. We thus have a double brain, as we have two eyes, two hands, etc. These two hemispheres seem to be independent in their operations, as one hemisphere has been almost entirely destroyed without apparent injury to the mental powers. The cerebrum is the seat of intelligence; when it is removed from animals they pass into a state of apathy and stupor.

The Cerebellum.—The Cerebellum lies behind the cerebrum, in the back part of the head. Its structure is similar to the cerebrum, but instead of convolutions it has parallel ridges which let the gray matter down into the white, presenting a peculiar appearance called the *arbor-vitæ*, or tree of life. The cerebellum seems to be the centre of voluntary motion; when it is injured or diseased, persons walk unsteadily as if intoxicated. Birds from which it has been removed lose control of their muscles.

The Spinal Cord.—The Spinal Cord begins at the brain in an expansion called the *medulla oblongata*, and passes down the cavity of the back-bone. It consists of the same tissue as the brain, but has the white fibres on the outside and the gray cells within. It is separated into halves by deep fissures, called the *anterior* and *posterior* fissures. Each half of the cord is divided longitudinally into three equal parts, the anterior, lateral, and posterior columns, by the lines of attachment of the roots of the spinal nerves. These nerves pass out of the spinal cord by apertures between the vertebræ, and then divide and subdivide and pass to the muscles and skin.

The Nerves.—The Nerves are silvery threads composed, like the spinal cord, of white matter without and gray matter within. Those which carry an impulse to the brain or to any central organ, are called *sensory* or *afferent* nerves; those which carry away an impulse from an organ are called *motor* or *efferent* nerves. If a sensory nerve is cut, sensation in the part to which it goes is lost, while motion remains; if the motor nerve is cut, motion is lost, but sensation remains. The structure of these two classes of nerves seems to be the same. The impulse which travels along them requires time for its passage, and is much slower than many other forces, even slower than sound.

Classes of Nerves.—The Nerves are of three classes; the *spinal*, *cranial*, and *sympathetic*. The Spinal Nerves arise from the spinal cord by two roots; the anterior root is the motor and the posterior is the sensory one. The anterior connects with the white matter of the cord; the posterior connects with the gray matter, and has a small ganglion of its own at a little distance from the origin. These roots unite and are bound up in one sheath, though they preserve their special functions. If the anterior root is cut, voluntary motion is lost and sensation remains; if the posterior root is cut, sensation is lost and voluntary movement remains. If both are cut, irritation of the anterior root below the point of division causes motion, while irritation of the posterior root above this point causes pain.

The Cranial Nerves spring from the lower parts of the brain and the medulla oblongata. They go to the face, nose, ear, eye, tongue, larynx, lungs, stomach, etc. The Sympathetic System consists of a double chain of ganglia on each side of the spinal column, extending into the chest and abdomen. From these ganglia, delicate nerves run to the vital organs,—the heart, lungs, stomach, etc., to the veins and arteries, and to the spinal and cranial nerves.

Functions of the Nerves.—The nerves serve to convey impressions and impulses to and from the central organs. One filament of each pair of nerves carries the sensation to the central organ, and the other filament carries the impulse from the central organ. If any point where they terminate is excited, one filament conveys the notice to the brain or ganglion, and the other brings an impulse back to the point where the sensation occurred. When an impression is made on any part of the body, the message flashes inward on the afferent nerve, and an answer is flashed outward to the place on the efferent nerve. This may be a matter of consciousness; or it may occur without the knowledge of the mind. This power of involuntary nervous action is called the *reflex action* of the nervous system.

Reflex Action.—Reflex action is the power of converting afferent into efferent impulses, or of sending back or *reflecting* an impression of the nervous system. Thus, if a person whose legs are paralyzed by spinal injury and consequently immovable, be tickled on the soles of the feet, the legs will kick out convulsively. The impulse is reflected from the spinal cord. Winking at a flash of light or a threatened blow, is an example of reflex action, in which the afferent nerves are the optic and the efferent nerves the facial. When a bad smell causes a grimace, the reflex action comes through the facial nerves, the olfactory nerves being afferent and carrying the impression to the brain. This power is possessed by the gray matter and not by the white, and resides consequently in the ganglia, spinal cord, and brain.

Importance of Reflex Action.—The principle of reflex action is important in explaining several processes connected with the action of the mind. Many of the operations in complex mental activities are due to this principle. Actions which at first require attention and volition, by frequent repetition become in a manner part of our organization, and are performed without volition or even consciousness.

The possibility of physical education is based upon the existence of this power, which the nervous system possesses, of organizing conscious actions into unconscious or reflex operations. The training of a gymnast, the practice of a dancer, the drill of a soldier, etc., are all founded upon this principle. The force of habit is illustrated by the story of the practical joker who, seeing a discharged veteran carrying home his dinner, suddenly called out "Attention," whereupon the man instantly brought his hands down to the soldier's position, and lost his mutton and potatoes in the gutter. Even the mind itself acquires habits by which it tends to reproduce often-repeated words and thoughts.

Organs of Perception.—The nervous tissue possesses the property of being sensitive to impressions of objects. It is arranged into organs in different places, and adapted to different impressions and sensations. In some cases there is a complicated organ, as the eye and ear; in other cases there is simply an expansion of the nervous tissue. The several classes of nerves of sensation are those of touch, taste, smell, sight, and hearing. All the knowledge we have of the qualities of bodies comes through the impressions made on these different nerves. Having given this explanation of the organism, we proceed to explain how the mind perceives through the different senses.

II. THE PERCEPTIVE PROCESS.

How does the mind perceive through the senses? What is the method by which the immaterial spirit takes cognizance of the objects of the material world? This is one of the first and one of the most difficult inquiries of mental philosophy. In answer to this question, it may be briefly stated that external bodies make an impression on the nervous organism, producing sensations, and that perception is the result. How this occurs, how an impression on the sense appears as conscious knowledge in the mind, is a mystery which is perhaps beyond the power of human philosophy to unfold with complete satisfaction.

Nature of the Subject.—In order fully to appreciate the discussion of the question, we should imagine ourselves without any knowledge of external objects whatever, and then try to trace our way out from the subjective world to the objective world; to bridge over the chasm between the *ego* and the *non-ego*, and show how the immaterial spirit cognizes the material object. The explanation of this is what we call the process of perception.

Methods of Explanation.—There have been many theories advanced to explain the process of perception. Most of the recent writers in this country have based their methods of explanation on that of Sir William Hamilton; and at least the spirit of his method is the one adopted in the present work. The process is by nearly all modern writers divided into two distinct parts,—Sensation and Perception. Perception is usually regarded as including two things; the cognition of the organism, and the cognition of the external object. We shall, in describing the process, divide it into four distinct parts or steps: first, Simple Sensation; second, the Distinct Cognition of the Sensation; third, the Cognition of the Sentient Organism; fourth, the Cognition of the External Object.

Simple Sensation.—The first step in the process of perception, or rather the condition of that process, is simple sensation. Something touches me, an impression is made on the nervous organism, that impression is transmitted to the brain, and I am conscious of a certain feeling which we call a *sensation.* This feeling belongs to the nervous organism as connected with the mind, and involves no act of the intellect. The nervous tissue is sensitive, and the feeling experienced is an affection of the nervous organism as connected with the mind. The process, so far, does not involve an act of perception, but is merely the condition of perception.

Cognition of the Sensation.—The mind is now aroused by this sensation, and the attention is directed to it. The sensation is cognized as an actual condition, as a real phenomenon, a something that now is and which was not. As these phenomena are repeated, the mind distinguishes one sensation from another, which involves an act of memory and comparison. It also cognizes the length of the sensation in time, as in a sound, the position of the sensation in space, as in touch, its intensity, as in color, etc.

I do not, however, know what produced the sensation, or whether anything produced it. I do not at first recognize it as an affection of my bodily organism, or even know that I have a bodily organism. I am conscious of it only as a feeling, though a feeling distinct in time, place, and degree. The process is entirely within the mind, a purely subjective process. It is, however, a cognition of the mind, and, therefore, an act of perception. This is really the first step in the process of perception.

Cognition of the Organism.—The second step in the process is the cognition of the organism. These sensations are experienced in different places, and are thus cognized as apart from one another. Thus a pain in the head, a prick in the finger, a wound in the foot, are felt at different places. To experience sensations in different places is to cognize a difference of place or locality. This cognition of locality leads to the idea of outness and thus of extension. This outness or extension is limited by the position of the different sensations; I thus cognize an extended limited something as the seat of sensations. This extended something, limited by the locality of sensations, we call the *sentient organism.* The sentient organism thus passes under the eye of consciousness, and becomes an object of cognition, distinct from the mind perceiving it. It is to me an externality having extension, and also form as the limitation of extension. It is to me a *non-ego*, distinct from the *ego*, which perceives it.

This cognition of the organism is aided, no doubt, by the sensations of the internal organs. The sensations of the muscles and viscera are felt in different places, and assist in limiting and filling out our idea of an extended sentient organism.

Remarks on the Process.—In this cognition we pass beyond sensation and the subjective phase of perception, to perception in its objective phase: it has been regarded by some writers as the first step of perception proper. It is an act of the mind midway between the cognition of the sensation and the perception of the external object. In it we reach the first objective *non-ego* as distinct from the *ego*. It is thus seen that the consciousness of the sensation is not perception, but the condition of perception; that the distinct cognition of the sensation as such is an act of perception in its subjective phase; and that the cognition of the organism as distinct from the sentient mind is an act of perception in its first objective phase.

Cognition of the Object.—The process is still incomplete, for there is as yet no conception of the external object. How, then, does the mind get out into the objective world and perceive the object itself? This is the most difficult part of the subject, and the point on which philosophers differ most widely. The following explanation seems to me to be simple and satisfactory:

One Explanation.—I am conscious of my bodily organism as extended. I touch some part of the organism, as my wrist, with my fingers, and find a double sensation, the feeling in my wrist as touched, and in my fingers as touching. I touch some other object, as a book, and find but one set of sensations, that in my fingers. Thus I cognize something different from my bodily organism, something that gives a sensation, but which does not possess the capacity for sensations. This new something now becomes an object of attention. I pass my hand along it, and for a certain time experience a sensation which afterward ceases; from this I perceive the object has a limitation in length. I then find its limitations in breadth and thickness in the same way, and thus cognize it as extended. I thus get a cognition of an extended something different from my organism—that is, of an extended object.

Hamilton's Explanation.—Sir William Hamilton explains the perception of an external object through the cognition of resistance to our locomotive energy. I am conscious of my bodily organism, and conscious that it is capable of movement in obedience to my volition. I am conscious of the effort to move my person or one of its members, and also conscious of being resisted in these movements. This new phenomenon, *resistance*, now becomes an object of attention. To know that I am resisted is to know, by a necessary law of intelligence, that something resists; and consciousness revealing nothing within the mind as resisting, we are compelled to attribute it to something external to the mind. To be conscious of resistance and know that it does not arise from the ego, is to know that it must arise from a non-ego, and, therefore, that this non-ego exists. Thus the outer world passes under the eye of consciousness, and becomes indirectly an object of perception.

Steps not Distinct.—In this analysis of the powers of perception we have regarded the act of perception as broken up into several distinct parts or steps. This division is, however, a logical rather than a psychological one. Chronologically, the act is one and indivisible; the sensation and the perception are synchronous. We are not, in an act of perception, first conscious of a sensation, then of the bodily organism, and then of an external something as producing the sensation. Usually the three are immediately united in a single act of perception. The explanation given, it must be remembered, is that of the original process in learning to perceive, and not of our matured acts of perception. There may be sensation, of course, without the cognition of an external object; but there can be no cognition of an external object without sensation.

III. REMARKS ON THE PROCESS OF PERCEPTION.

The foregoing discussion will give one a general idea of the process by which the mind perceives objects through the senses. A few remarks upon the method described will afford a clearer idea of some points involved in the process, and also answer some questions which naturally grow out of it.

Sensation and Perception.—Sensation and Perception are to be clearly discriminated. Sensation is simply the phenomenon of feeling as an affection of the organism. It is purely subjective, and is the immediate result of some impression on the organs of sense. Perception is the cognition of the feeling as a distinct phenomenon; the cognition of the organism as affected and as an externality having extension; and, also, the cognition of objects external to the organism. Sensation is thus the indispensable condition of perception. Some writers seem to regard the cognition of "the sensation as such" as a mere sensation; but since it involves a distinct act of mind, it is more than sensation, and must be considered as an act of perception.

Relation of Sensation and Perception.—The relation of Sensation and Perception is expressed by a law simple and universal in its character. This law, as stated by Hamilton, is as follows: *Perception and Sensation, though always co-existent, are always in the inverse ratio of each other.* That is, the stronger the sensation the weaker the perception, and *vice versa.* Thus, in sight, where perception is at its maximum, sensation is at its minimum, for we are not conscious of any organic pleasure or pain from the impression of colors on the retina. In touch, where the sensation is distinctly felt, the perception is feeble. The same law holds in the relative operations of each sense, for the more intense the impression on any one sense, within certain limits, the less distinct the perception. Thus in the sense of sight, if the impression be strong, we are dazzled or blinded, and while conscious of the sensation, perception is nearly or wholly lost.

Nature of Sensation.—The nature of sensation is not fully understood. Whether the modification of the organs of sense extends inward beyond the surface, is a question difficult to answer. Some have supposed that the impression is carried along the nerves to the brain either by vibrations in the substance of the nerve or by the "flow of animal spirits," or by some general nervous agent, or by the influx of actual representative *films* or *forms* or *species* from without. These, however, are mere hypotheses, some of them utterly inconceivable, and none of them established by experiment. Some, again, suppose that the mind pervades the entire sentient organism, or passes down from its presence-chamber in the brain to the place where the impression is made. Knowing nothing about it, however, we can assert nothing.

Explanation Based on Touch.—The explanation of the perceptive process here presented is based on the sense of touch. It does not attempt to explain how we perceive objects by the eye or ear. It assumes that our first perceptions of external objects come through the sense of touch, and that the other senses are instructed by the sense of touch. Thus in hearing, it is held that all that this sense gives us is the cognition of sound; and that, having learned by touch that there is an external world, we learn by experience to refer the sound to an external object. So, in respect to sight, it is held that the ideas of color and form, if sight gives form, are referred by experience to the objects which by touch we have learned exist around us. The same also is true with respect to smell and taste. This phase of the subject will be discussed more fully under the next general head.

Direct and Indirect Perception.—It is held by the advocates of this view that perception through touch, or muscular resistance, is a direct cognition of the external world, and that all other perception of external objects is indirect. Thus, when we hear a sound and refer it by experience to a passing carriage, we are said to perceive the carriage, not directly, but indirectly. So when we smell a fragrance and refer it to a rose or pink, we are said to perceive the rose or pink indirectly. Some of the cognitions of sight also are explained in the same way.

Acquired Perceptions.—These indirect perceptions are also called *acquired perceptions*. We acquire the power of using one sense in place of another, or of applying the knowledge which is given by one sense to something given by another sense. Thus, when I hear a sound, I know it comes from a piano, a flute, or a person; and the sound awakens the perception of the object. So when I see iron glowing in the furnace, I say it "looks hot;" though heat is a perception of touch. These two classes of sense-perceptions are distinguished as original and acquired. An original perception is that which is given by a single sense when used alone; an acquired perception is that which is given by using the knowledge afforded directly by one sense as the sign of knowledge which we gain by some other sense. This is more fully discussed under the next general head—Perception by the Different Senses.

The Forming of Percepts.—The product of Perception is called a *percept.* A percept may be defined as the idea we have of any particular object. Our ideas of objects are complex, being composed of different elements given by the different senses. Thus my idea of an orange embraces its form, color, weight, hardness and softness, fragrance, taste, etc., some elements being given by one sense and some by another. Each of these elements is called a *simple percept;* and their union in a single idea which we call *the orange* is a *complex percept.* Some writers call the former a *percept* and the complex percept a *thing;* but thing seems to refer to the external object rather than to our idea of it. It is thus thought to be better to call one a percept and the other a complex percept—or simply a percept.

Synthesis of the Elements.—The synthesis of the different elements into one idea involves an act of the understanding and of intuition. The bringing of the elements together seems to be an act of the understanding; the cognition of them as belonging to a *substance,* and the distinction of substance and attribute, involves an act of the intuitive power. An act of perception, as is shown in the discussion of the intuitive power, is thus completed by an act of intuition. The mental picture we form of the object is given by the representative element of the mind. Perception furnishes the materials; representation makes the picture.

Source of Knowledge. — Perception is the source of our knowledge of an external world. It is the power by which the immaterial spirit comes in contact, as it were, with the external world and knows it. We may, perhaps, conceive of a being so constituted as to be independent of sense, and yet as taking cognizance, in some mysterious manner, of objects external to itself; but not such a being is man. Whatever may be the power of the human mind, when separated from the body, to perceive external things, in the present life it can cognize matter only through the avenues of sense. The mind, seated in its presence-chamber, the brain, looks out upon the material world through the senses, the windows of the soul, and perceives that it has color, and form, and actual existence.

Basis of All Knowledge.—Perception lies at the basis of all knowledge. All mental activity begins in the senses. The outer world makes impressions on our senses, and arouses the mind into activity. By this activity we gain a knowledge of the world without, and also originate knowledge different from that of the things of the material world. Without the power of sense-perception, it is to be doubted whether we could attain to any knowledge whatever. All knowledge does not come directly from perception through the senses, however. We have a knowledge of external objects, and we have also knowledge that transcends this knowledge of external objects. Perception is the immediate source of the first kind of knowledge, and the indirect source of the second kind of knowledge.

This Distinction Expressed.—This distinction is often expressed by the terms *cause* and *occasion*. Thus perception is said to be the *cause* of our knowledge of objects, since it is the immediate source of such knowledge. Perception is also said to be the *occasion* of the ideas and truths of intuition; for, though in a sense necessary to these ideas, it is not the source of them. Perception also furnishes the understanding with materials out of which it derives ideas and truths beyond the sphere of sense. As thus attaining a knowledge of external objects, affording material for the operations of the understanding, and furnishing the occasion for the activity of the intuitive power, perception may be said to lie at the basis of all knowledge.

IV. Perception by the Different Senses.

The general characteristic of the nervous organism is its susceptibility to impressions. This general susceptibility is the basis of all sensations. There are five distinct modifications of the general structure or functions of the nervous organism, each of which gives us peculiar qualities of bodies. These five distinct modifications form what we call the Senses. There are thus five senses, namely; Touch, Sight, Hearing, Smell, and Taste. Touch is nearly identical with the general nervous susceptibility. While, however, there is a general susceptibility to impressions all over the surface of the body, the sense of Touch is specially provided for in the fingers. The other senses have special organs supplied with particular nerves for the perception of special qualities of objects.

Knowledge from Each Sense.—The question now arises,—What knowledge is given by the different senses? The investigation of this subject is of great importance in determining the character of perception. The object is to discover the use and value of each one of the senses. What is given, for instance, in Hearing? Do we hear an object, or do we hear the sound merely? Can we tell, primarily, the distance and direction of the sounding body, or are these the result of experience and judgment? What is given in Sight? Do we perceive primarily only color, or can we see surface extension, or even trinal extension? Can we perceive through the eye the relative distance of objects, or is that a matter of experience? These and similar questions we now proceed to consider.

PERCEPTION BY TOUCH.—The Organs of Touch are the fingers. These are endowed with a special sensitiveness to external impressions. When my fingers touch an object, I experience a feeling. This feeling is felt in the fingers at the place of contact. All that I cognize, however, is a mere feeling. It is purely subjective, pertaining to the organism, and not to anything external to the organism. If repeated, I could distinguish it from former feelings; but I would not know that it was in any way related to an external object. In and of itself, it would not suggest the existence of any external object. If I were motionless and had no other sense, it is a question whether I should ever be able, by pure touch alone, to gain a knowledge of external objects.

The cognition of external objects is known by a comparison of the sensations produced in touching the organism and an external body. It is also determined by muscular resistance, as already explained. Both of these experiences are no doubt involved in this cognition of external objects. Either one might be able to furnish the cognition; but in reality, no doubt, they combine to produce the result.

PERCEPTION BY SMELL.—The Organ of Smell is the Nose, the interior of which consists of convoluted plates, giving a large extent of surface in a small space. Over these bony plates is spread the olfactory nerve, which is covered by a mucous membrane. This nerve is susceptible to minute particles thrown off from bodies and borne through the air to the interior of the nose.

Direct Perception.—What we perceive in smell is merely the sensation of odor. The particles produce a sensation in the organ, and this is all that we primarily perceive. We do not know primarily what caused the sensation, or whether it was caused by anything objective to ourselves. It is purely a subjective phenomenon. If we had no other senses than smell, we could never know that the odor had any relation to an objective cause.

Acquired Perception.—By experience we learn to associate odors with external objects. We notice the presence of odors when certain objects are present, and thus learn to attribute the odor to the object which produced it. The perception of a fragrance, as of a rose, in time will enable us to cognize the rose itself. This is an acquired knowledge, however, and not an act of pure perception. It is the result of judgment combining the sensation of perfume with some other perception. It is what is called a derived or an indirect perception. It will be noticed that we cannot learn to judge of the direction of an object by its odor, nor very accurately of its distance.

PERCEPTION BY TASTE.—The Organs of Taste consist of the Tongue, the Palate, and a portion of the Pharynx. On these organs ramify the filaments of the *gustatory nerve*, arranged in minute papillæ. This nerve is susceptible to certain qualities of bodies called their savor.

Direct Perception.—What we perceive in taste, as in touch and smell, is merely a sensation. The savor of objects affects the nerve of taste in a certain way, and the result is a sensation. This sensation is the object of perception. We discriminate one flavor from another, and apply names to the different flavors, as bitter, sweet, spicy, pungent, acrid, etc. This is all that is directly given by taste.

Acquired Perception.—We afterward learn, by experience, to associate certain sensations of taste with certain objects, known by some of the other senses, and thus to cognize objects through their flavors. Thus I can, with my eyes shut, tell sugar, or tea, or coffee, by their flavor. This, however, is an acquired knowledge, and not the result of pure or direct perception. The cognition of an object through its flavor is called an acquired or an indirect perception.

PERCEPTION BY HEARING.—The Organ of Hearing is the Ear. The ear is a complicated organ, consisting of several parts. There is first an exterior expanded appendage, contracted into a small tube, across the end of which is stretched a membrane forming the head of the *tympanum*, or drum of the ear. In this drum there is a series of small bones whose office it is to transmit the vibrations of the membrane. Beyond the tympanum is the *labyrinth*, a convoluted chamber containing a watery fluid in which the filaments of the *auditory nerve* are spread out.

The external ear collects the vibrations of the air caused by sonorous bodies; these are carried through the tube to the drum of the ear; they are then transmitted by the series of small bones, and thus reach the fluid, the vibrations of which affect the auditory nerve, and thence results the sensation of sound.

Direct Perception.—The sense of hearing gives us the idea of sound. This idea can come from no other sense. If we were born without the sense of hearing, we could never have the idea of sound. No description or illustration could convey this idea to the mind of a person who was deaf from infancy. Sound is a sensation, and the perception of sound is the cognition of a sensation. Sound itself has no existence outside and distinct from my sensation of it. Strictly speaking, sound does not exist outside of myself; there may be air-waves, but not sound.

Purely Subjective.—This cognition is, therefore, purely subjective. Not only is it subjective, but primarily I have no idea that it has any relation to an object distinct from myself. I do not know, primarily, that this sensation is caused by an external object, or that it bears any relation to such an object. Indeed, from hearing alone I would not know that there is anything external to myself. When I say I hear a bell, a bird, a carriage, etc., I do not, strictly speaking, hear these objects, but rather the sound made by them; and the cognition of the object through the sound is not direct perception, but a matter of inference or judgment. In a secondary sense, however, the word sound is applied to the air-waves, as well as to the sensation. It is transferred from its primary or subjective meaning to a secondary or objective one.

Distinguish Sounds.—We perceive sounds in their peculiarities, and distinguish them according to their differences or qualities. Thus we distinguish them in volume, as loud and soft, with many degrees of the same. We also distinguish them as to pitch, from very low to very high, running through five or six octaves, with all their intermediate tones. We also notice their succession, which gives us rhythmic measure, the first element of music, as in the drum, and in the metre of verse. When the difference of pitch is combined with time, we have melody; and when several sounds are heard at the same time, we perceive harmony and discord. The complete cognition of some of these distinctions probably involves other faculties than pure perception, however.

Acquired Perception.—Having gained a knowledge of external objects through some of the other senses, we begin to associate these sounds with objects, and thus learn to refer particular sounds to particular objects. We learn to give objectivity to our sensations of sound, and speak of them as belonging to objects, as the song of a robin, the roar of the wind, the voice of a friend, etc. We thus, through the sense of hearing, come to have an indirect perception of the objects of the external world. We know that the car is passing, by its sound; that a gun was fired, by its report, etc.

Associated with Ideas.—We learn also to associate these sounds with certain emotions, as the sigh with sorrow, the groan with pain, the laugh with joy, etc., and to regard the sound as the expression of the emotion. We go even further than this, and form sounds to represent our ideas and thoughts, and thus communicate with our fellow-men by means of language. Sound thus becomes the medium of communication from one soul to another; it is, as it were, a bridge on which thought and sentiment travel from one mind and heart to another. The soul thus embodies its thought and feeling in sound; the wealth of spoken language is one of the marvels of science and art.

Judge of Direction.—We learn also to judge of the direction of sounding objects from us. Whether this is an original or an acquired power has been a question; that is, whether a child knows primarily the direction of a sounding object, or acquires the power of judging its direction. It is, no doubt, an acquired power; for if sound was not originally cognized as objective, it could not have been cognized as having direction. How we judge of the direction of sounds is a mystery; but it is supposed by some to be due to our having two ears, and to the ability of turning the head in different directions, though this explanation is not entirely satisfactory.

Judge of Distance.—We also learn to judge of the distance of objects from us by their sound. This is evidently due to the different degrees of intensity of the sound; the degree being noticed by our having previously associated the sound with the object and being familiar with each. The ability to judge of distance and direction may be cultivated to a high degree of accuracy. Napoleon, it is said, was seldom mistaken with respect to the direction and distance of a cannonade. The Indian of our northwestern prairies, by applying his ear to the ground, will detect the approach of a body of cavalry at a distance beyond the reach of vision, and distinguish their tread from that of a herd of buffaloes.

PERCEPTION BY SIGHT.—The Organ of Sight is the Eye. It is a complicated organ, consisting of two humors and a lens through which the rays of light pass to the inner surface, the back part of which is covered with a fine network expansion of the optic nerve called the *retina*. At the centre of the retina is a small yellow spot which is especially sensitive to light, and is chiefly employed in direct vision. The rays of light coming from an object cross one another in their progress through the eye, and form an inverted image or picture of the object on the retina. The impression of this image or picture of the object is in some mysterious way the condition of our perception of the object.

Conditions of Vision.—The several conditions for an act of vision are;—first, an eye with its sensitive retina; second, an object with a certain amount of light issuing from it; third, the power of adjusting the eye to more or less light by a change in the pupil; fourth, muscular movements in adapting the eyes to the direction and distance of the objects perceived. These circumstances enter into the act of perceiving, and assist in explaining the process. Understanding this, we proceed to explain what we perceive through the sense of sight primarily, and what are our acquired perceptions.

Sight Gives Color.—First, sight gives us the sensation and perception of *color*. This idea can be obtained by no other sense; without sight we could never have any idea of color. This idea is originally purely subjective, like that of sound. There is, of course, some peculiarity of the external object that produces this sensation; but what that condition is, we do not know from sight. We, of course, refer our sensation of color to objects, but whether we did so at first or not, is a question. If we had no other sense than sight, it is a question whether we would ever know that color had any relation to anything beyond or outside of ourselves.

The Sensation of Color.—The sensation of color is due to the action on the retina of rays of light of a different wave-length. Thus, if a certain number of waves impinge on the retina in a unit of time, the sensation is *red;* if about twice the number in the same time, the sensation is *violet;* and the other colors of the spectrum originate in a similar manner. If two or more of the simple colors of the spectrum act upon the same spot of the retina simultaneously, it may produce the sensation of a *mixed color.* Some suppose that there are three kinds of nerve fibres in the retina, the excitation of which gives the three primary colors, red, green, and violet. The sensations of the other colors are produced by the different degrees in which these fibres are brought into united activity. This knowledge is given by natural philosophy, however, and not by psychology. We are not conscious, in an act of perception, of any of these facts.

Extension and Form.—Sight, according to our present experience, gives us the cognition of extension and form. Whether this is a direct or an acquired perception is, however, a question. Is the percept of color primarily perceived as extended? Is there a visual image in the perception of color, which the mind perceives as distinct from and beyond the organ of sense? In other words, do we, by the eye, primarily perceive the extension and form of objects? This is a difficult question to decide, and one upon which philosophers are not agreed. We shall give arguments on both sides of the question, and endeavor to reach a correct conclusion in respect to it.

Color, and not Extension.—It is supposed by some that color is merely a physiological affection of the nervous organism, like sound. We do not perceive sound as extended; and the same has been supposed to be true of color. Both these sensations are produced by the vibrations of a medium, one of air, the other of ether: the vibrations of air affect the auditory nerve and give the sensation of sound; the vibrations of ether affect the optic nerve and give the sensation of color. Sound is not perceived as extended; what reason have we to suppose that color is? These considerations seem to lead to the conclusion that we originally perceived color without the perception of extension. Several reasons, however, may be given in favor of the perception of color as extended.

Portion of the Retina.—In vision a certain portion of the retina in length and breadth is affected. The picture covers a certain part of the sensitive surface of the retina, and this seems to be a condition of perceiving surface extension. In objection to this, it may be said that the same thing may be asserted of taste and smell, in which there is no perception of extension. To this we reply that in those senses an *indefinite* portion of the surface is affected, while in sight the picture covers a *distinct* and *definitely marked* outline. In touch I can distinguish the shape of a small object placed on the palm of my hand, perceiving whether it is round or square; and the blind detect the shape of the letters with the ends of their fingers. So it is thought that the delicately organized retina is susceptible to the shape of the picture upon it, and perhaps even to the shades of color which indicate solidity.

Reflection from Objects.—Second, the fact that light comes to us reflected from external objects in straight lines is not without weight in determining this question. Extension, surface expansion, seems to be the necessary condition for color; and it is difficult to conceive that what we know to be a condition for the existence of color, is not given along with the perception of color. In this respect, color is entirely different from sound. Color depends on the size of the object, on the amount of surface expansion; sound has no such dependence. The size, so to speak, of a sound, is not measured by the size of the sounding body. Increase the size of a string, and it does not necessarily increase the size of the sound; but the extent of color varies directly with the size of the object which affords the sensation.

Color and Extension Inseparable.—Third, the impossibility of our conceiving of color without having an idea of it as extended seems to be a conclusive argument. I conceive of sound, flavor, etc., without any notion of extension; but what conception can I have of color without the conception of it as extended? Can I conceive of such a conception? can I have such a conception? Are we not thus forced to the conclusion that color is primarily conceived as extended?

In reply to this consideration, Dr. Brown says that it is a mere habit of association, and does not prove anything. If we had always seen color associated with convexity, we would not be able to separate our idea of color from convexity. This cannot be admitted, however. If we had never experienced color except as associated with convexity, it would be an easy matter to transfer the quality to a plane surface, or to a concave surface, or to any imaginable form, just as now we can give any color to any new form that we may see, or even to a new form that we may imagine. The arguments therefore seem to be in favor of sight giving us primarily extension and figure.

Trinal Extension.—Sight also at present seems to give us, not only surface extension, but also trinal extension. It is a question, however, whether this is an original or an acquired perception. Do we by the eye originally see objects as possessing thickness as well as length and breadth? This is also a question difficult to decide. We incline to the opinion that the perception of trinal extension is acquired by experience. Primarily we perceive objects as having only surface extension. The trunk of a tree, for instance, would seem merely like a ribbon of light; we should not know that it had solidity. How then, we inquire, is this perception acquired?

Idea How Acquired.—In looking at objects we notice a variation of light and shade in their appearance. At first we would not understand what this variation of light and shade means. We know the forms of these objects by touch; we then learn the meaning of this variation of light and shade in respect to form;

and learning to interpret light and shade, we thus learn to cognize the form of objects through sight. It is as in a painting, where, though all the colors are on a flat surface, the variations of color make things appear as if they were solid. It is probable we are aided in the perception of the solidity of objects by the varying effort and angle under which the axes of the eyes are concentrated upon different parts of the object, the parts more remote requiring a different angle from those nearer. The sense of touch is thus the schoolmaster of the eye in respect to trinal extension, and the power of perceiving it through the eye is an acquired one.

Perception of Distance.—We also by the eye perceive the distance of objects from us and from one another. It is a question, however, whether this is an original or an acquired perception. The majority of philosophers seem to regard it as an acquired perception. Those who hold this view maintain that all that we originally perceive is the sensation of color, and that we learn by experience to refer it to objects external to ourselves. The following arguments seem to favor this view.

Distance an Acquired Perception.—First, it is said that facts show that sight does not give distance. What we see at first seems to be in contact with the eye, and the belief that it is not, is acquired by experience. This is said to be shown in persons operated on for cataract and restored to sight. Dr. Cheselden says that the boy from whom he removed a cataract thought at first everything he saw touched his eyes. It is also said that persons released from a dungeon have no perception of the distances of objects.

Second, it is also adduced in favor of this position that we are often mistaken in our judgment of distances. Mont Blanc, when it first dawns on the sight, seems only a mile or two away, while it may be really twelve or fifteen miles distant. As I sit in my room, I think I see a cow feeding in the meadow, and wondering why she does not change her position, I go to the window and find that what I took for a cow in the field is really a speck on the window pane. It has been supposed that such mistakes indicate that we do not primarily perceive objects as distant.

Distance a Direct Perception.—There are also some considerations on the other side of the question. First, the fact that we do now so clearly see objects as distant from us is regarded as a proof that we did originally so see them. Second, the little child seems to reach out for things, as a burning lamp, as soon as it begins to notice anything. It does not reach up to its eyes, as we might expect it to do, if the primary cognition was a mere affection of the organism. Third, the young of animals, also, as soon as they are born, seem to see things as external to themselves, and govern themselves accordingly. The chicken runs for the mother hen, and the calf follows the cow with the eye, and goes in the direction in which she is seen. Fourth, the mistakes in judging of the exact distance of objects has no bearing on the question, as it is not the exact distance of objects, but the fact that they are perceived as beyond ourselves and at relative distances, with which we are concerned.

Idea How Acquired.—If we do not primarily perceive objects as distant from us, and as relatively distant from one another, then the power of doing so is evidently an acquired one. Slowly and by a process of education in which touch plays an important part, we learn to refer the visual sensation to external objects. The intensity of light varies with the distance of a body. This variation in the intensity of light is noticed and associated with the distances of objects learned by touch, and we thus learn to judge of their distance by sight. We are also aided in this perception of distance by the muscular changes which adapt the lines of vision of the two eyes to the object when near or more remote. These changes may be distinctly noticed by looking at objects nearer and more remote, and observing the movements of the eye.

QUESTIONS ON SIGHT.—There are several questions relating to sight which naturally arise in this connection. These questions will be briefly considered.

Perception of One Object.—The first question is, how do we see objects as single with two eyes? Since there are two pictures, one on each retina, it is natural to suppose we should see objects double. Several answers have been given to this question. Some think that only one eye is used in vision, the office of the second being to strengthen or reinforce the first. Others hold that the mind actually perceives two objects, but passes so rapidly from one to the other that the impression is made of seeing only one. Others again teach that the impressions are carried to a common point of meeting where they are fused into one.

The correct explanation, probably, is that in looking at a single object with both eyes, the centres of the retinal images fall upon the centres of the "yellow spots" of the two eyes, or upon points similarly situated to these spots, and that this is the condition of single vision,—probably so learned by experience as controlled by touch. To illustrate, hold two pencils in a line before the eye six or twelve inches apart; now while we are looking at either one, the other will be seen double, for the reason that the retinal images are not in similar parts of the eye in relation to the line of vision.

Perceiving Objects Erect.—Why is it that we perceive objects as erect when the images are inverted on the retina? In explanation of this question, it must be remembered that we are not conscious of the visual image in perception, but of the luminous object from which the rays proceed. These objects we have found to be in a certain position by touch; hence we cognize them in that position through the visual sensation. Again, in running the eye over an object, as a tree, from base to top, we are not conscious of the different images on the retina, but of the muscular movements necessary to bring the parts successively on the yellow spot of the retina. We go upward for the top of a tree; hence we cognize the top of a tree as above rather than below. These facts seem to indicate the correct explanation. Objects naturally appear to the eye in the position we have found them by touch.

V. The Qualities of Bodies.

In Perception we cognize, not matter itself, but the qualities of matter. Though by a law of thought we are compelled to assume for matter a substantive existence, yet we know it only through those peculiarities or properties which are revealed to us by the senses. These qualities of matter are various, some being perceived through one sense and some through another. They may all, however, be embraced under two general classes which have been named *Primary Qualities* and *Secondary Qualities.*

The Primary Qualities.—The Primary Qualities of bodies are those which are necessary to the very existence of matter, or at least to our conception of it. They are inseparably connected with matter, so that we cannot in thought divest it of these qualities without destroying our conception of matter. Thus, if matter exists at all, it must have *extension, size, figure,* etc. We cannot think these attributes away from material things, and leave the things themselves existing.

Criteria of Primary Qualities.—The criteria by which we determine the primary qualities of bodies may be briefly stated as follows:

1. They are essential to the existence of matter. That is, matter could not exist without these qualities.

2. They are known *a priori,* and not from experience. That is, our knowledge of them is not given by perception; they are known by intuition to be the necessary conditions for material existence.

3. They are known as such or in themselves. That is, they are known to exist independently of any effect on the nervous organism.

Enumeration of Primary Qualities.—The Primary Qualities are Extension, Figure, Size, Divisibility, Density, and Impenetrability. Several of these qualities are subordinate to or implied in extension. Besides these, since objects exist in space, they are susceptible of Situation and Motion, which are sometimes embraced among the primary qualities.

The Secondary Qualities.—The Secondary Qualities are those which are not necessary to the existence of matter, but that are accidental or contingent. They are qualities which may or may not be possessed by any object. We may, by an act of thought, divest a body of any one of these attributes without destroying the existence of the body. To take away a primary quality is to destroy the body; to take away a secondary quality will not destroy the body, but merely change its nature. Thus a body may or may not be hard or soft, rough or smooth, have color or fragrance, etc.

Criteria of Secondary Qualities.—The criteria of the secondary qualities may be briefly stated as follows:

1. They are accidental and not essential to the existence of matter. The quality can be removed and the object still exist.

2. They are known only through experience, or *a posteriori.* Our knowledge of them is *given* by perception, and not merely *occasioned* by perception.

3. They are known only through the affection of the senses. We cognize them through the sensation which they produce by the impression on the organism.

Enumeration of Secondary Qualities.—The Secondary Qualities are Hardness or Softness, Roughness or Smoothness, Solidity or Fluidity, Color, Sound, Flavor, Odor, etc. These qualities, it is seen, have a relation to our senses, and are known only through sensation.

Division of Secondary Qualities.—The secondary qualities consist of two classes. There are some qualities which, though only known to us through the senses, have still an existence as qualities of external objects independent of our senses. Others are known, not as qualities of bodies, but only as affections of sense. Thus hardness, roughness, weight, etc., are qualities belonging to the bodies themselves; while color, flavor, sound, etc., are merely affections of the senses. The former qualities are perceived in the objects; the latter are perceived only as sensations. The former are objective, belonging to the object; the latter are subjective, belonging to the sentient organism. These two classes of qualities have been appropriately distinguished as *mechanical* and *physiological.*

The Mechanical Qualities.—The first class are qualities of bodies as occupying space. They may all be included under the general category of resistance, and are thus appropriately called the mechanical properties of matter. They are distinguished from the primary qualities in that they are perceived by an affection produced in the sentient organism, and also in that they are not essential to the existence of matter. They are distinguished from the physiological in that they have a real objective existence, independent of the affection of the organism.

Enumeration of Mechanical Qualities.—The mechanical qualities are Heavy and Light, Hard and Soft, Solid and Fluid, Rough and Smooth, Compressible and Incompressible, Resilient and Irresilient, etc.

The Physiological Qualities.—The second class of the secondary qualities are the qualities of bodies as related to our sentient organism. They relate to bodies only as capable of producing certain sensations in us. As properties of bodies, they are not directly perceived, but only inferred as the supposed causes of the various affections produced in us by external objects. What we directly perceive are only the subjective affections of our sentient organism. When I perceive the color, smell, or taste of an orange, all that I perceive is a certain affection of my own organism.

Enumeration of Physiological Qualities.—These physiological qualities are Color, Sound, Flavor, Odor, Temperature, Tactual Sensations, and some other affections of a similar nature.

Qualities Corresponding in Objects.—What the peculiar properties in the objects are which are the exciting cause of these sensations is not known. My cognition does not extend to them; I only know the effect produced in my sentient organism. Thus in the perception of *sound*, what I perceive is the affection of my organism, and not any quality of the sounding body. It is true that we refer the effect produced to the object as the producing cause of it, but no one can suppose that the taste of an object, for instance, is the same as the quality of the object which gives rise to the taste. Since, however, we have but one name for the sensation and its cause, the name of the sensation is often used to denote the quality in the object. The name of the sensation is thus transferred from the affection to the property in the object producing it. It is only in this popular sense, therefore, that we may be said to perceive these qualities of objects.

CHAPTER II.

THE CULTURE OF PERCEPTION.

HAVING explained the general character of the perceptive powers, we now proceed to discuss the methods of giving culture to these powers. We shall speak of the Neglect of Culture, the Importance of this Culture, the Difference of Perceptive Power, the Time for Culture, and the Methods of Culture.

I. NEGLECT OF CULTURE.—The culture of the perceptive powers is largely neglected. The powers of observation in children are not trained as they should be; and the neglect of childhood is perpetuated in the habits of advancing years. In fact, hardly any faculty is more neglected in our systems of education than the faculty of observation; certainly for no one of the faculties of children are less provisions made for culture and training.

Poor Observers.—The result of this neglect is that the people of the present day are poor observers. Indeed, we perceive distinctly comparatively few of the facts and phenomena of the natural world around us. Nature spreads out her facts before us in rich profusion, but we close our eyes to them or turn away from them: she places them under our feet, and we stumble over them or tread them in the dust unobserved. Having eyes we see not and ears we hear not, the interesting facts with which nature has surrounded us. Indeed, in respect to our observation of the things of the natural world, it may be truly said of us as teachers, as Christ said of the Pharisees, that we are " blind guides."

Examples of the lack of observational power are to be found among all classes of persons. How large a number of young people to-day cannot explain the difference between an oak and a beech, or distinguish between granite and marble. Very few persons can tell the difference between the number of legs of a fly and of a spider; and I have known farmers' boys and girls who could not tell whether the ears of a cow are in front of her horns, above her horns, below her horns, or behind her horns!

Modern Education.—Modern education tends to the neglect of the culture of the perceptive powers. In ancient times people studied nature much more than at present. Being without books, they were compelled to depend upon their eyes and ears for knowledge; and this made the senses active, searching, and exact. At the present day, we study books for a knowledge of external things; and we study them too much or too exclusively, and thus neglect the cultivation of the senses. We get our knowledge of the material world second-hand, instead of fresh from the open pages of the book of nature. Is it not a great mistake to spend so much time in school and yet not know the difference between the leaf of a beech and of an oak; or not be able to distinguish between specimens of marble, quartz, and granite?

The Educated.—The neglect of the culture of the perceptive powers is shown by the scholars of the present times. Very few educated men are good observers; indeed, the most of them are sadly deficient in this respect. This arises from the fact that their perceptive powers were not trained in youth. They were taught to think and remember; but they were not taught to use their eyes and ears. In modern education, books are used too much like spectacles, and the result is a blunting of the natural powers of perception. In this respect, one is reminded of the French students in the time of Napoleon who, in order to escape being drafted into the army, used spectacles to make themselves near-sighted. Our scholars have become near-sighted, like these students, by the habit of looking at nature through the printed page.

The Uneducated.—As illustrative of the same fact, it may be remarked that the uneducated, as a rule, are better observers than the educated. Having to depend for knowledge largely upon their senses, they acquire the habit of accurate observation. They may not always be able to read books, but they learn to read the open volume of nature with an accurate eye and a sympathetic heart. The untutored Indian will trace his way through the forest by the moss on the trees, pursue his escaped captive by the broken twigs or the displaced leaves, and learn the presence of his enemies or friends by the faintest film of smoke against the sky. Mrs. Gage tells of the old negress who predicted a storm on a fair morning by "the talking of the winds and waves over there," and of the drenching shower in which the young people were caught, who, thinking they knew better than an old colored woman, did not heed her advice to remain at home.

II. IMPORTANCE OF CULTURE.—The importance of the culture of the perceptive powers will hardly be questioned. Still, a few remarks on the subject may be of service in impressing the idea of its value on the mind of the teacher, and induce him to make some special provisions for such culture in the instruction of the school.

Basis of Knowledge.—Perception, we remark first, is the basis of common knowledge. The most of our ordinary knowledge consists of facts which are obtained through the senses. These facts constitute the fabric of our common thought and conversation. We talk of persons, places, and things which we have noticed—knowledge which we have derived through perception. Our powers of description depend largely upon our powers of observation, for in order to describe well we must observe minutely and accurately. The man of large and accurate powers of observation is usually the man of interesting facts and incidents, and makes the congenial companion or entertaining talker.

Basis of Science.—Perception is also the basis of science, that is, of the physical sciences. These sciences begin in facts, and rise to their classification, the causes which produce them, and the laws which govern them. The facts of these sciences are given by perception; thought takes these facts, and weaves them into the fabric of science. Thought is the architect in the domain of science; facts are the stones and bricks with which it works.

Thought takes this material and builds up the temple of knowledge, lofty, beautiful, and grand.

The great scientist must be a close and accurate observer. Linnæus must have studied the world of facts with the keenest perception to have been able to form his artificial system of classification. Cuvier was as searching in his vision as he was far-reaching in his power of grand generalization. To classify the turtles of North America, Agassiz gave days and nights to the minutest dissections and comparisons. The most careful and thorough observations are required to reach the conclusions of modern physics and astronomy. The advance of modern science is largely due to the accuracy of the observer.

Use in Literature.—Careful observation is of great value even in literature. Nearly all the great writers have been close observers of nature. Homer shows a sympathetic love of the natural world, and his pages glow with beauties drawn from his observation. Shakspeare must have read the fields around Stratford with a loving and searching eye for their beauties, for his verse breathes of the freshness of the field and the forest. The streams ripple through his lines, the flowers blush with beauty in his similes, and the moonlight falls asleep upon fragrant banks beneath the golden stars above, while "soft stillness and the night become the touches of sweet harmony." Chaucer, Cowper, Thomson, Burns, Scott, and Dickens, were all close observers of nature; and their pages are redolent with the breath of the vernal landscape. If England should be sunk beneath the sea, English scenery would still live in the pages of her immortal writers.

Use to the Poet and Orator.—The power of perception is of great value also to the poet and orator. This thought may be emphasized by the following quotation from Mr. Emerson: "The poet, the orator, bred in the woods, whose senses have been nurtured by their fair and appeasing changes, year after year, without design or heed, shall not lose their lessons in the roar of cities and the broil of politics. Long hereafter, amid agitation and terror in national councils, these solemn images shall reappear in their morning lustre, as fit symbols for the language of the hour. At the call of a noble sentiment, again the woods wave, the pines murmur, the river rolls and shines, and the cattle low upon the mountains, putting the spells of persuasion, the keys of power, into his hands."

Facts of Interest.—We should cultivate the perceptive powers for the interest of the facts which they afford us. The objects of the material world are full of interest and beauty. Nature presents herself as a book to be read; the "Book of Nature" is no unmeaning metaphor. It contains many a vivid page as interesting to us as a romance. In the spring-time, it is a volume bound in green and gold; in summer it presents many a gorgeous page to our raptured vision; while the sere and yellow leaves of autumn and the snowy pages of winter teach a never-to-be-forgotten lesson. It is a book too that can always be read with interest by those who have learned its alphabet. How full of interest is Nature's stony book, whose pages are the everlasting rocks! How delightful is Nature's starry book, whose pages are glittering with the jewels of the sky!

The Book of Nature is no poetic fiction. Longfellow, in his tribute to Agassiz, says,

> "Then Nature, the old nurse, took
> The boy upon her knee,
> Saying, 'Here is a story book
> Thy Father hath written for thee!'"

And he read from out the book many a tale of divine wisdom which we may now read in his translation of the divine symbols. The interest of this grand old volume may be seen in every department of nature; in the shining crystals, the blooming flowers, the buzzing insects, etc.; and it is the teacher's duty to open the eyes of the pupils to the interesting pages of this book, and teach them to read the beautiful lesson there recorded.

III. Differences of Perceptive Power.—There is a marked difference in the perceptive powers of different individuals, as in the other powers of the mind. Some persons are much closer observers than others. Two persons will look at the same object, and one can tell you many things in respect to it that escaped the notice of the other. This difference appears in many facts, and is strikingly illustrated in the finding of four-leaved clovers. There are persons who have never been able to find a single specimen of clover with four leaves, while others will go out in the yard and cull them by the handful.

Difference Due to Nature.—Much of this difference in perceptive power is due to nature; minds naturally differ in the power of observation as in their other faculties. There seem to be two distinct classes of minds—the perceptive mind and the reflective mind. The perceptive mind operates objectively; the reflective mind seems to bend inward and act subjectively. One is attracted by objects and is interested in things; the other lingers among its ideas and is most interested in thoughts.

Difference Due to Culture.—Much of this difference, however, is due to culture. The senses become sharpened by use. This is illustrated by men who are proficient in natural science. Hugh Miller could stand by the rocky pages of his native Scotland, and read them as accurately as we can read a book. Agassiz would bring a grasshopper before his class and point out scores of interesting things about it, holding the attention of his audience as if he were reading from the pages of a romance. The same fact is also illustrated by the description of various things in which a person has had some interest. Thus girls will describe articles of dress much more minutely than boys; while the latter excel in describing such objects as horses. A trained detective becomes Argus-eyed in the routine of his profession.

IV. THE TIME FOR CULTURE.—Youth is the time for the culture of the perceptive powers. In youth all the senses are unusually active. Life seems, as it were, to begin in the senses. Children desire to see, to hear, to feel, to handle, to examine. This activity of the senses is generally known as curiosity; and children are often criticised for their curiosity. Parents often misunderstand this spirit, and regard it as mischief. It is not mischief, however, in any bad sense; it is merely the desire for knowledge. Little children tumble things upside down, rummage in bureau drawers, and do many other things annoying to their parents; but it should be remembered that this is done in the pursuit of knowledge. The child is acquiring its education, and is learning faster than when it goes to school or college.

Duty of Teachers.—Parents and teachers should gratify this curiosity in children. It is the voice of nature and should be heeded. Teachers could often sit at the feet of nature and learn lessons of her in the education of the young. Children are often kept in school, studying the dry pages of text-books, when they should be out conning the more attractive pages on which the hand of nature has written her countless lessons of interest and beauty. The ability to read the book of nature correctly is worth more to many persons than the power to peruse the pages of a school reader. A most valuable part of education consists in that training which gives the power of wresting from nature her stores of knowledge. The power to acquire for ourselves, as well as to understand and remember what has been acquired, is one of the grand ends of culture.

V. METHODS OF CULTURE.—Having spoken of the importance and neglect of the culture of the perceptive powers, we shall now give a few directions in respect to the methods by which these powers may be cultivated. The subject is a broad one, and would require a volume to give it adequate development. Only a few general statements can be made in this place.

Cultivated by Exercise.—The perceptive powers can be cultivated by exercise. Exercise is the great law of culture. This law is universal; all development comes from exercise. The law applies to both body and mind. The arm of the laborer and the leg of the pedestrian become strong by use. Neglect exercise and we lose power, either mental or physical. Put the arm in a sling, and it becomes weak; let the mind be inactive, and it becomes imbecile and incapable of exertion.

Illustration.—To train the perceptive powers, therefore, they must be exercised. By exercise the eye of the sailor perceives a vessel in the far distant horizon which a landsman can hardly see with a spy-glass. A watchmaker can detect a slight injury to the delicate works of the watch, while another would be unable to see anything wrong with it. Persons whose business it is to test the qualities of teas by tasting them become so skillful that they can distinguish hundreds of varieties. It is said that the tasters of liquors become so expert that they can tell where the grapes grew out of which the wines or brandies were made. The reading of the blind with their raised letters also illustrates what a delicacy can be acquired by the sense of touch.

Should be Judicious.—This exercise should be judicious in kind and quantity. The objects observed should be adapted to the age and capacity of the pupils. They should be such as to attract the attention and please and interest the mind. The mind should not be overtaxed nor wearied in the work; too much exercise may blunt the senses instead of improving them. By using the fingers with lack of care, the blind may impair the delicacy of the finger-tips in reading the raised letters. The tasters of liquors must be temperate men to preserve that nice sense by which they distinguish the fine shades of difference between the various brands of the importers.

Observe with Attention.—We should acquire the habit of observing with attention. Many persons look at objects with a careless, inattentive eye. We should guard against the habit of careless looking. We should fix the mind upon the object before us; we should concentrate the attention upon that at which we are looking. Attention, in respect to perception, has been compared to a burning-glass: hold the sun-glass between the sun and a board, and the concentrated rays will burn a hole through the latter. So attention concentrates the rays of perceptive power and enables the mind to penetrate below the surface of things.

Illustration.—The difference between attentive and inattentive observation is readily illustrated by the habits of individuals. People observe with most attention those things in which they have the most interest. Some people coming from church, can tell you the text, the divisions of the sermon, and are able to repeat a portion of the discourse. Others can tell you who were at church, what dress or bonnet Mrs. Smith wore, and who had on something in the newest style or fashion. The story of the lost camel and the dervish, found in many of our school readers, presents a striking illustration of attentive observation.

Observe Minutely.—To train the powers of observation we should practice observing minutely. We should analyze the objects which we look at into their parts, and notice these parts. Objects present themselves to us as wholes; our definite knowledge of them is gained by analysis, by separating them into the elements which compose them. We should therefore give attention to the details of whatever we are considering; and thus cultivate the habit of observing with minuteness.

Illustration.—A few illustrations of minute observation may serve to impress what is meant. We all recognize the faces of our friends; but how few of us can describe them. Some persons, however, after meeting a man but a single time, will tell the color of the hair, the color of the eyes, the side on which the hair is parted, the peculiarities of mouth, nose, cheek, etc., describing each feature and peculiarity with minuteness. The same is true in respect to the dress of ladies and gentlemen. It is related of a teacher that if, when hearing a class, some one rapped at the door, he would look up as the visitor entered and from a single glance could tell his appearance and dress, the kind of hat he wore, kind of neck-tie, collar, vest, coat, shoes, etc. The skillful banker, also, in counting money with wondrous rapidity, will detect and throw from his pile of bills the counterfeits which, to the ordinary eye, seem to be without spot or blemish.

Object Lessons.—The perceptive powers are cultivated by means of Object Lessons. The design of object lessons is twofold, —culture and knowledge. The primary object, however, is the culture of the senses. The method of imparting this culture is to teach, not with books, but with the real objects, with things which pupils can see and handle for themselves. We should require pupils to discover facts for themselves. There should be an "observation class" in every school. In this way pupils may be taught to observe the facts of nature and acquire the power of quick and accurate perception.

By Drawing.—The art of Drawing is well adapted to give culture to the perceptive powers. This art requires us to look closely at objects, to examine them in detail, and to acquire distinct and definite ideas of them. Thus, let a person who has not had any practice in drawing attempt to outline a state or country of which he thinks he has a very correct idea, and he will realize how much more closely he must examine it than he has done in the ordinary study of geography. So, in drawing a leaf of the maple or oak or beech, one will be surprised at the increased accuracy of observation required. The study of drawing is therefore adapted to train to habits of close and minute observation.

By Natural History.—The study of Natural History will also give culture to the power of perception. This is evident from the nature of these sciences. They deal with facts, and in studying them we must observe these facts for ourselves. To become skilled in these sciences it is necessary to examine closely plants, animals, and minerals, to become familiar with their form, color, structure, peculiarities, etc. This gives constant exercise to the perceptive faculties, and secures the habit of careful and attentive observation. In proof of the value of these studies, we find that naturalists are close and minute observers. Agassiz, as already stated, would take a grasshopper and discourse for hours on the beauties and wonders of its structure and habits; and Hugh Miller could read the history of creation in the hieroglyphics of nature found in the Old Red Sandstone of Scotland.

Formulas for Observation.—The perceptive powers, when naturally poor, may be aided by a formula for observation. By a formula for observation is meant a systematic outline or arrangement of things which are worth observing. Such a formula would be of great value to one who does not observe closely. It suggests to him what he should look at and examine carefully, and will enable him to remember what he has seen. A formula similar to the following is suggested for a traveller:

Formula for a Traveller.
- 1. Physical Features.
    - 1. Land and Water.
    - 2. Animals.
    - 3. Plants.
    - 4. Minerals.
- 2. The People.
    - 1. Looks.
    - 2. Language.
    - 3. Dress.
    - 4. Manners.
    - 5. Morals.
    - 6. Education.
    - 7. Employment.
- 3. The Buildings.
    - 1. Dwellings.
    - 2. Churches.
    - 3. School-houses.
    - 4. Public Buildings.

SPECIAL LESSONS.—In our schools there should be special lessons arranged to give culture to all the senses. Such lessons come appropriately under the head of Object Lessons. Every public school should be furnished with objects suitable to give such instruction and culture; and teachers should not neglect so important a duty.

Sense of Touch.—The sense of touch should be trained so as to detect the texture of cloth, the quality of flour, the shape of objects, etc. Great skill can be obtained in this way. The experienced merchant can tell the quality of goods by his delicate touch, and the miller knows the quality of his flour by feeling it. The sense of muscular resistance, in estimating the weight of objects, should also be cultivated. With a little practice, the weight of books, chairs, and other objects, even to the fraction of an ounce, can be determined by "hefting them."

Sense of Sight.—The sense of sight should also receive careful training. First, the pupil should be trained to distinguish all the primary and secondary colors; and afterwards he should be drilled on their different shades and tints. Exercises in the harmony of colors, and their application to dress, the furnishing of rooms, etc., would be of great value to the student. Much may be done in this way to sharpen the eye, and increase the delicacy and accuracy of vision. The teacher should find out all who are color-blind, either partly or totally, and make an effort to remedy this defect. The weight of objects, horses, cattle, and even of persons, can be told within a few pounds by the sight when it is properly trained.

Sense of Hearing.—The sense of hearing should also receive training. The pupil should be exercised upon the sounds of the musical scale until the various skips can be readily told. The practice of naming the notes struck on an organ or piano is also a good drill. Pupils should be encouraged to listen to the songs of birds, so that they can distinguish one from another and describe them. Every bird of the forest or meadow should be known by its song. The noises of insects also afford a good subject for the exercise of hearing. Every person should be familiar with a large list of words which indicate the various sounds, and have clear ideas of the differences of these sounds.

Smell and Taste.—It might be well also to give some culture to the grosser senses of smell and taste. It would be well if each person was familiar with the principal odors so that he could detect and name them. In some kinds of business, such skill is invaluable. A refined sensibility in respect to perfumes is also of value in cultivated society. The ability to detect different flavors is also not unworthy of some general culture. In certain kinds of business, as the selection of teas, it becomes a necessity.

Conclusion.—In conclusion it is suggested that teachers should appreciate the value of the culture of the perceptive powers, and endeavor to do something to afford this culture. Let it be remembered that by training the powers of observation of pupils we lead them to acquire definite ideas of things, enable them to store their minds with fresh and interesting knowledge, lay the foundation for literary or business success, and thus do much to enhance their happiness in life and add to the sum of human knowledge.

THE MEMORY.

CHAPTER I.

THE NATURE OF THE MEMORY.

THE MEMORY is that faculty of the mind by which we retain and recall knowledge. It is the power by which we are enabled to hold fast to our mental acquisitions and recall them to mind when we wish to use them. The power of holding knowledge is called Retention; the power of reproducing knowledge is called Recollection.

The Term Memory.—The term Memory is derived from the Latin *memor*, mindful. It is used by some writers as identical with retention; thus they speak of a strong memory and a tardy recollection. This distinction in the use of the term, however, is not correct; the term memory is properly used to embrace the entire faculty of retaining and recalling.

Elements of Memory.—As thus defined, the Memory seems to embrace but two elements; those of retention and recollection. There are, however, two other elements which enter into an act of memory; namely, *representation* and *recognition*. The mind not only retains and recalls knowledge, but it presents it in the form of pictures and recognizes it as a part of its past experience. There are thus four elements in the faculty of Memory; Retention, Recollection, Representation, and Recognition.

Elements Distinguished.—These four elements, though usually united in a complete act of the memory, are both logically and psychologically distinguished. It is one act or power of the mind to retain knowledge, another to call it up out of unconsciousness, another to hold it in the mind in the form of vivid pictures, and still another to recognize the object pictured as a matter of previous experience. The closest relation seems to exist between recollection and representation; indeed, it may be asked whether what is recalled is not necessarily represented. It is manifest, however, that the capacity or energy to recall is not identical with the power by which we represent what is recalled. All the four elements, though intimately related, present distinct mental acts and indicate distinct mental capacities or energies.

Different Views of Memory.—Some writers treat the entire subject under the head of Representation, regarding retention and recollection, not as elements of the faculty of Memory, but merely as conditions of representation. These writers usually regard the representative element as performing two offices—the representing of both the old and the new—and thus as embracing the memory and the imagination. Others, holding the same general view, ignore retention even as a condition of recollection or representation. Others, again, seem to regard mental reproduction as the principal element in the faculty, and refer to representation and recognition as merely incidental to it. The correct view seems to be to give each one of the four elements a distinct place in the faculty.

Hamilton's View.—Sir William Hamilton regards the first three elements as so entirely distinct that he treats them as distinct faculties, naming them the Conservative, the Reproductive, and the Representative powers. The fourth element, that of recognition, seems to have escaped his notice, as he does not discuss it nor refer to it. Under the Representative power, he includes the power of forming exact transcripts of past experience, and also the power of representing the new, or the Imagination.

THE ELEMENTS OF MEMORY.

The Memory, as we have explained, embraces four distinct elements—Retention, Recollection, Representation, and Recognition. We now proceed to discuss each one of these elements in detail.

I. RETENTION.—Retention is the power by which we retain knowledge. It holds fast to that which we have acquired, and prevents its escaping from the mind. It is a conservative element; it conserves or preserves knowledge, not in but out of consciousness. Sir William Hamilton calls it the Conservative power of the mind, and treats it as a distinct faculty, coördinate with Perception, Recollection, etc.

To What Compared.—The element of retention may be compared to a mental storehouse in which we store away our knowledge until we wish to use it. It has also been compared to a treasury in which we place our ideas and thoughts for preservation. The ancient writers compared it to a tablet on which characters were stamped or engraved. Gassendi likens it to a piece of cloth or paper which is capable of receiving numerous folds, and retains those longest in which it has been oftenest laid. These comparisons, however, are merely illustrations of the faculty, and do not philosophically explain it.

Method of Retaining.—How knowledge is retained in the mind, it is difficult, if not impossible, to explain. Yet that it should not be retained, is equally difficult to understand. Hamilton says that "the problem most difficult of solution is not how a mental activity endures, but how it vanishes." It may be said that our ideas are not retained in the sense in which a hook retains a hat or coat ready to be taken down when wanted. We are not to conceive the mind to be a convenient receptacle in which all manner of thoughts and feelings may be stored away, like guns in an armory, or old clothes in the clothes-press. What we mean by the mind being retentive is the power by which it prevents knowledge from vanishing away so that it may reproduce what it has once known.

Objections to Retention.—Some authors discard the element of retention, considering the memory merely as a reproducing power. The reason for this view is that whatever energy the mind possesses in respect to retaining knowledge, it exercises, not in but out of consciousness. Even Sir William Hamilton, who raises the element into the importance of a distinct faculty, says, "Retention is a condition of representation; and it is only by an extension of the term that it can be called a faculty, that is, an active power." "It is more a passive resistance than an energy, and ought, therefore, perhaps to receive rather the appellation of a capacity." Dr. Porter says that the doctrine of a retentive faculty is purely figurative.

Reasons for Retention.—Notwithstanding these views, there seem to be good reasons for regarding the mind as possessing the power to retain knowledge, and thus as embracing an element of retention. In favor of this view several considerations will be presented. First, the phenomenon of retention is natural, on the ground of the self-energy of the mind. The possibility of the conservation of the activities of the mind is involved in the conception of the power of self-activity.

Second, the power to retain is implied in the power to recall. If there were no power to hold knowledge, how could there be any reproduction of knowledge? If nothing were retained in the mind, there would be nothing to recall. I cannot recall that which was never in the mind. Third, the power to retain is implied in the common expression "commit to memory." We commit our ideas and thoughts to something that takes charge of and preserves them.

Fourth, consciousness shows that the operation of trying to fix a thing in the mind and the recalling of it are quite different. The effort to commit is not the same as the effort to recall. In one case we seem to work from without inward; in the other from within outward. Fifth, this distinction is sustained by many eminent philosophers. Plato considered the memory merely as the faculty of conservation. Aristotle distinguished memory as the faculty of reproduction. Sir William Hamilton regards it as a distinct faculty coördinate with recollection. And many of those philosophers who discard it in their formal statements, unconsciously acknowledge its existence by the use of such expressions as a "*tenacious* memory," etc.

Hamilton's Argument.—Hamilton's argument in favor of retention will be briefly stated. We are conscious of certain cognitions as acquired, and we are conscious of these cognitions as resuscitated. That in the interval, when out of consciousness, these cognitions do continue to subsist, is an hypothesis which we are not only warranted but necessitated to establish. The sphere of our conscious modification is only a small circle in the centre of a far wider sphere of action and passion. Thus in sight we may not be conscious of all the minute parts of an object, but these together make up the object of vision. In hearing, the noise of each wave may not be heard, but the sum of these unheard noises makes up the murmur of the sea of which we are conscious. Thus there are latent modifications of consciousness of which we are unconscious.

Physiological Explanations.—Some of the older writers endeavored to explain the phenomena of retention by various physiological hypotheses, as for example, the hypotheses of permanent material impressions on the brain, or of permanent disposition in the nervous fibres to repeat the same oscillatory movements, or of particular organs for the different functions of memory, or of particular parts of the brain as repositories of the various classes of ideas, or of a particular fibre as the instrument of every several notion. But all these suppositions are useless, and show an ignorance of the true nature of the mind. The act of retention is a psychical and not a physiological one, and is due to the inherent energy of the self-active spirit.

II. RECOLLECTION.—Recollection is the power by which we recall knowledge. It brings knowledge, which has been lying dormant in the mind, into consciousness, and enables us to re-know what we have previously experienced. Hamilton calls it a resuscitative power; it resuscitates or brings to life that which seems to lie buried in unconsciousness. Knowledge lies sleeping, as it were, in the tomb of unconsciousness; Recollection awakens it and calls it forth into life.

Illustration.—The action of the Recollection can be readily illustrated. Thus a word, a strain of music, the face of a friend, which I do not now think of, may be recalled to mind so that I have a vivid conception of them. The word Niagara is spoken, and lo, before my mind rises a picture of the grand cataract—the rushing torrent, the deep plunge of water, the deafening roar, the cloud of mist rising out of and hanging over the abyss, and the graceful rainbow crowning all with its glorious arch of beauty.

Relation to Retention.—The relation of the two elements, Retention and Recollection, may be readily seen. Retention holds knowledge; Recollection brings it forth out of unconsciousness into consciousness. Retention may be compared to a storehouse in which knowledge is placed for safe-keeping; and Recollection to an errand-boy that is sent in to bring out what is needed. Retention may be likened to a well in which are preserved the streams of knowledge which flow therein; and Recollection to the bucket which is let down to bring up the knowledge as we wish to use it. The former is a condition for the latter; the latter is the complement of the former.

Unequal in Degree.—Retention and Recollection seldom exist in equal degrees in the same mind. This difference is due partly to nature and partly to culture. Some minds are quick and ready; what they know seems to be always at the surface, or, as we say, "on the end of the tongue." Other minds are slow to recall what they know, and usually reproduce the past with conscious effort. The ready memory is often not very tenacious, while the slow memory is usually strong in its hold on its facts. The pupil that commits a lesson readily may forget it in a day or two; the student who acquires with labor often retains much longer. "Easy come, easy go," we often find to be as true of knowledge as of money. The study of facts, committing of verbal lessons, frequent use of knowledge in conversation—all these tend to increase the readiness of the memory. The neglect of facts, lack of conversation, the study of principles, etc., tend to produce tardiness of the memory.

Voluntary and Involuntary.—Recollection operates both involuntarily and voluntarily. One thought may succeed another without any voluntary purpose on the part of the person; every one is familiar with the train of thought in which ideas and images seem to chase one another through the mind. Our thoughts may also be called out of unconsciousness by a direct and intentional effort of the will. The former is called involuntary or spontaneous recollection; the latter has been called by some writers reminiscence, or recollection proper.

Possibility of Recalling.—The possibility of voluntary recollection has been questioned. How can we, it is asked, seek in the memory for, or try to recall, that of which we have no recollection? Does not the fact that we will to recall anything imply that we have already remembered what we wish to remember? This has been regarded as a philosophical puzzle; but it is so only to the philosopher who rejects the element of retention. The simple fact is that we are conscious of having acquired something which is not now in consciousness, but which we are trying to recall out of unconsciousness into consciousness. Thus, suppose I have for the moment forgotten a name, and try to recall it; the effort to recall implies that I am conscious that I have retained the name and believe that I can recall it.

III. Representation.—In an act of memory we not only retain and recall, but there is also a representation of that which we recall. The object or event stands out before the mind in the form of an image or picture, or in some mental product, corresponding to the original experience. The power that thus represents knowledge is called the representative element of the memory.

Illustration.—To illustrate this element, suppose I recall my boyhood's home. I see it as clearly in my "mind's eye" as I did when a boy with the eye of sense. It stands before my mind as a picture,—its yard, garden, orchard, and fields, the old barn with its hay-mow, stables, etc. I see it all again as distinctly as if I were at the spot looking upon it,—father, mother, sister, brother, the companions of my youth, and the sports of childhood,—all these pass before my mental vision like the pictures in a panorama.

Relation to Recollection.—The act of representation, though closely related to, is distinct from the act of recollection. The one is a drawing out process, a recalling something out of unconsciousness into consciousness; the other is a representation of that which is recalled. Recollection is a condition of representation; we must first recall before we can represent. That which is represented was first retained by the conservative energy of the mind; it was then recalled out of consciousness by the reproductive power; the elements thus recalled are constructed into a picture or into some form corresponding to the original cognition. It is not assumed that knowledge is retained as a picture, and restored as a picture; but that it is recreated in the form of a picture or some other mental product when it is recalled.

Relation to Imagination.—The representative element gives us an exact transcript of the past. In this respect it differs from Imagination, which combines our mental images of the past into new products. Sir Wm. Hamilton regards the representative element in memory and imagination as the same power differently applied. He treats it as a distinct faculty with the two offices,—that of representing the actual and also the ideal. The latter, in connection with comparison, he regards as the power which writers call the Imagination. The truth is, the memory and the imagination both employ a representative element; one represents the actual, the other the ideal.

Not Restricted to Pictures.—The representative element in memory is not restricted to the representation of pictures. It embraces the entire domain of mental activity. The products of all the senses, indeed every product of the mind, may be recalled and represented. Thus, we can conceive of a sound, as well as an object of sight. The music we have heard comes floating through the mind as distinctly as if we were at present listening to it. We may also conceive of a feeling, a flavor, a perfume, etc., which have been objects of past experience. We may also recall and represent an abstract or general idea, a thought, a process of reasoning, etc. Every mental product that may be retained and recalled, may be represented, that is, may be re-conceived. Every conception which the mind forms of a past experience or former mental product is regarded as due to the representative element of the memory.

The Object of Representation.—What is the object given in the act of representation? What is the nature of that which is represented? A general remark has already been made on this subject; but to give a clear and definite conception of it, we shall consider the matter somewhat in detail.

A Mental Object.—The object given in representation is a mental object. It is not a real object which we remember, but something of the mind's own creation. It is thus a *mental* and not a *material* object that is the product of the representative power. It is a product of the mind, and has a psychological, but not a material existence; it exists in and for the soul alone. As such, it is not only a product of the mind, but an object for the mind to contemplate and recognize.

A New Object.—The object given in representation is a new object. It is not an old experience repeated, but a new representation of an old experience. The mental object given in representation is neither a material object nor an *old percept* of an object; but a new mental product of a transcript more or less exact of the object or percept. It is a *re-creation* or *re-production* of something we have experienced before; but not the same identical experience.

Experience of Sense.—The representative power may operate in the domain of each one of the senses. Its most vivid conceptions are those of sight, where the product is in the form of a picture with distinct outline, color, etc. But it may also represent a sound, as the note of a bird, the voice of a friend, or a remembered strain of music. It can also represent a flavor, a fragrance, the sensation of warmth or cold, etc. Though the primary idea of representation is that of images, yet in a larger sense the remembered product of every sense is a representation.

Other Products.—The representative power operates in the domain of the understanding also. Our *ideas* and *thoughts* are not only recalled, but are also held up before the mind in distinct conceptions. In the larger sense of the term, both abstract and general ideas are represented; so also are truths, judgments, trains of reasoning, etc., which may be recalled to mind. In the same sense, the higher intuitive ideas and truths, the emotions and volitions, are held before the mind by this element of the memory. As we have before stated, every product of the mind, every object of consciousness that is recalled, may be represented in a form corresponding to the primary experience.

An Intellectual Object.—The mental object in representation is an intellectual object. Whatever is recalled and represented is thus recreated by an act of the intellect—whether it be an idea, an emotion, or a volition. We can recall and represent an act of the *intellect*, or of the *sensibilities*, or of the *will;* each of these is an experience originally known by consciousness, and as such may be recalled and represented to the mind; but in this representation there is an intellectual act, and the representation before the mind of the emotion or volition is itself an intellectual product. The product of representation is thus intellectual in its nature. A feeling or volition is converted into a product of the intellect in the act of its being recalled and represented.

IV. RECOGNITION.—The three elements of the memory now considered, provide for the retaining, the recalling, and the representing of past experience. An act of memory is not completed, however, until the image, or mental product, recalled and represented, is recognized as pertaining to our past experience. The mind not only recalls and represents its products; but it knows them as transcripts or representations of some former act or affection of consciousness. It recognizes them as things or representations of things it has known before; and this act of recognition completes an act of memory.

An Act of Knowledge.—The act of recognition is an act of knowledge; it is a knowing of the mental object represented. Indeed, there is a kind of dual act of knowing. That which is recalled and represented is known, not only in itself as a mental product, but also in relation to my experience at some previous time. I know the thing that is before my mind, and know it also as a something of previous cognition. Thus, in recalling a person or a tree, I not only know them as objects, but know them also as objects previously perceived by me. The same is true of a mental act or a feeling. I cognize them as replaced in thought, and I also cognize them as a previous experience of consciousness.

Importance of Recognition.—The importance of this act of recognition will be readily seen. Without it we could not distinguish between the products of memory and imagination. Images of my previous perceptions may arise out of the background of the past, picture after picture may be represented on the mental canvas; how am I to know whether they are products of memory or creations of the imagination? Only as I recognize them as facts of past experience. The landscape before my mind is recognized as one which I previously saw; it is a product of memory. The ideal image before my mind is not recognized as a fact of my past experience; it is a product of imagination. The act of recognition is thus the crowning act of memory. Indeed, it is not memory in its full and complete sense until the object recalled is recognized and receives the stamp of previous experience.

A Subjective Element.—The element of recognition adds the element of self to the mental object. It links the subjective element to the objective. Besides the cognition of a mental image or product, there is the cognition of ourselves as related to it in time and place. We not only know the object as recalled, but we know ourselves as perceiving that of which it is a copy, and the circumstances under which it was originally perceived. All the circumstances may not be known; but usually several of them are distinctly recalled, and we know ourselves as making the original cognition in these circumstances.

Operates With Objects.—The element of recognition operates with respect to a new percept of an old object, as well as with a recalled representation of it. Thus a thing seen or heard the second time is recognized as having been seen or heard before. The man I meet to-day I recognize as the man I met yesterday; and the melody I hear to-day is known to be the same that I heard a week ago at the opera. A repeated perception of an object is thus recognized, as well as a mental representation of the perception of the object.

Varies in Certainty.—This recognition may be more or less distinct and positive. Our knowledge in memory may vary from the most distinct and positive cognition to the vaguest and most uncertain impressions. All the circumstances may stand out clearly before the mind—the time when, the place where, the events just before and after, the adjacent and surrounding objects; or these things may be only partly remembered, and confusion and uncertainty exist in the mind. This uncertainty may be so great that we may sometimes distrust our own recollections.

Uncertainty May Diminish.—This uncertainty may often be reduced to a less degree, or even changed to certainty. This may be done by a review of and meditation upon the circumstances. We try to recall some of the details, we search among the circumstances, we meditate upon the subject, and thus try to "refresh our memory." We may even reason about the matter, bringing our judgment to bear in aiding the memory. The object which was first vaguely recalled, now begins to stand out distinctly and vividly before the mind. A moment ago we thought it was so and so; now we are positive that it was. All doubt has vanished, and we are as confident in our recognition as we are in the truth of an axiom. We may thus often pass from a condition of doubt in respect to the revelations of the memory, to one of entire certainty.

Recognition Not Comparison.—The recognition of a mental product is not an act of comparison. At first thought it may seem as if we compared the mental product given in representation with some previous product of the mind. This, however, is not possible. There is only one object in consciousness in an act of memory; and thus there is nothing with which to compare it. In order for a comparison to be made, there must be at least two objects in the mind. It might seem possible to compare a present material object with our recollection of it; but even in the mere perception of an object the recognition is immediate. In an act of memory the recognition is an act of knowledge direct and immediate, and not the result of comparison.

Element of Belief.—The element of recognition is attended with belief. We believe what we recognize as a fact of previous experience to be so. Dr. Reid says, "This belief, which we have from distinct memory, we account real knowledge, no less certain than if it was grounded on demonstration; no man, in his wits, calls it in question, or will hear any argument against it. The testimony of witnesses in cases of life and death depends upon it, and all the knowledge of mankind of past events is built on this foundation. There are cases in which a man's memory is less distinct and determinate, and where he is ready to allow that it may have failed him; but this does not in the least weaken its credit, when it is perfectly distinct."

The Importance of Memory.—On this subject Dr. Haven makes the following judicious remarks: "The importance of memory as a power of the mind, is shown by the simple fact, that, but for it, there could be no consciousness of *continued existence*, none of *personal identity*, for memory is our only voucher for the fact that we existed at all at any previous moment. Without this faculty, each separate instant of life would be a new existence, isolated, disconnected with aught before or after; nay, there would, in that case, scarcely be any consciousness of even the present existence, for we are conscious only as we are *cognizant of change*, says Hamilton, and there is involved in it the idea of the *latest past* along with the present. Memory then is essential to all intelligent mental action, whether intellectual, sensational, or voluntary. The ancients seem to have been aware of this, when they gave it the name μνημη (from μνημος, μναομαι), appellations of the *mind itself*, as being, in fact, the chief characteristic faculty of the mind."

THE LAWS OF MEMORY.

Having explained the elements which enter into an act of memory, we are now prepared to consider the laws by which the memory operates. These laws pertain particularly to the operation of the first two elements,—Retention and Recollection.

I. NATURE OF THE LAWS.—By the Laws of Memory, we mean the regular mode or order according to which the memory operates. The thoughts which we retain and recall are not retained and recalled by chance. The memory is not a lawless activity, doing its work in a hap-hazard sort of way. There is a reason why one thing is remembered rather than another, and this system or order by which the faculty operates is what we mean by the Laws of Memory. We shall first speak of the Laws of Recollection.

Law of Association.—All the laws of recollection are embraced under the principle of the Association of Ideas. Nearly every idea or thought that arises in the mind is connected, directly or indirectly, with some previous idea or thought. The relation may be immediate or remote; but some connection there usually is between a mental product now present to the mind, and some mental product which preceded it. This mental product previously in the mind is supposed to be the cause or occasion of the idea or thought now present to the mind. The fact that one idea or thought thus tends to awaken some other idea or thought, implies a law of mental activity, which has been called the *Law of Association.*

Basis of Recollection.—This law of association is the basis of mental reproduction. One idea or feeling in the mind calls up some other idea or feeling with which it is in some way related. Our ideas seem, as it were, to be tied together by the invisible thread of association, so that as one comes up out of unconsciousness, it draws another with it. Thoughts seem to exist somewhat in clusters like the grapes of a bunch, so that in bringing out one, we bring the entire cluster with it. This fact explains what we mean by a "train of thought;" one thought after another comes before the mind like the cars of a railroad train, each being united or coupled to its fellow by the tie of association. The law of association is thus the tie, the thread, the golden links, by which our thoughts are united in an act of reproduction.

Source of All Recollection.—Whether all mental reproduction is in accordance with this law is a question. In other words, it is a question whether purely spontaneous memory is possible; memory independent of the law of association. Does any idea or thought ever occur to the mind not suggested by some previous idea or thought? Writers on mental science usually teach us that spontaneous memory is not possible. An eminent writer says, "Every thought which occurs to the mind is connected with and suggested by something which preceded it." Another writer says, "What is recalled at any moment . . . . is always recalled by means of the cognitions and feelings which the soul possessed the moment previous."

Recollection Spontaneous.—This view is not regarded as correct. Reproduction without the law of association is believed to be possible. The memory may act with pure spontaneity, and something arise out of unconsciousness that was not suggested by some previous idea or thought. Further, it is here maintained that not only is this true of spontaneous memory, but that we can, by a direct effort of the will, revive some past experience, independently of the law of association. The mind usually acts in accordance with the law of association; but it is not a slave to this law. The mind is a free spirit, and can snap the chain of association, turn the current of thought into a new channel, or start a new train of thought at its will.

The Term Suggestion.—The term *suggestion* is preferred by some writers to that of *association.* It is claimed that the phrase "association of ideas" implies that the ideas have previously coexisted in the mind, and that the one recalls the other on account of that previous coexistence. Such a previous association is not always a fact; one idea will suggest another with which it has never been previously associated. An object seen for the first time will remind me of some other object, though the two could never, by the supposition, have been previously associated. It is thus held that one idea suggests another by virtue of some law of the mind, and that the proper expression is the *law of suggestion* rather than the *law of association.*

Association Preferred.—It must be admitted that thoughts excite or recall one another without a previous association. But in such cases there will be found some relation between them; and the term association is used to express this relation, and does not mean to assert invariably a previous association. The most of our thoughts, however, do occur through the principle of previous association; and this seems to be the underlying principle of all reminiscence. Besides this, the expression "law of association" has become established by the usage of philosophers, and it would need much stronger objections than the one stated to set it aside.

Law of Relation of Ideas.—This general principle or law of association is based on the broader principle of relation; and it would probably be most accurate to say that the memory operates by the principle of the *relation of ideas.* The principal relations concerned in an act of recollection are the following; Similarity, Contrast, Cause and Effect, Contiguity in Time and Place. These four relations are usually known as the Primary Laws of Memory.

II. PRIMARY LAWS OF MEMORY.—The Primary Laws of Memory are those which act or tend to act universally with all persons. They are especially the laws of reproduction, though they also aid in the retaining of knowledge. These laws have been usually regarded as four; namely, Similarity, Contrast, Cause and Effect, Contiguity in Time and Place. A brief discussion of each of these laws will be presented.

Law of Similarity.—It is a law of the memory that similar objects of thought tend to recall one another. This law is often expressed,—"like reminds us of like." Illustrations of the law will occur to every mind. Thus a person I meet on the street reminds me of a similar person I may have met years before; a farm-house reminds me of the home of my childhood; one tune recalls to mind a tune similar to it; the landscape near my home calls to mind a similar landscape that I saw in a foreign tour, etc. So sounds will suggest similar sounds, colors similar colors, tastes similar tastes, etc.

Similarity not Complete.—In these cases it is not necessary that the similarity be complete. A single point of resemblance is sufficient to awaken the conception of objects in other respects quite dissimilar. A person with blue eyes may remind me of another person with blue eyes, while in other respects they may be entirely unlike each other. A single feature of a landscape,—a tree, a rock, or a grove—will bring before the mind the picture of another landscape widely different in all other respects. "An article of dress," as Haven says, "peculiar to the Elizabethan age, or to the court of Louis XIV., reminds us of the lordly dames and courtiers, or gallant warriors, of those periods."

Law of Contrast.—It is a law of the memory, that dissimilar objects of thought tend to recall one another. Thus cold reminds us of heat, light of darkness, joy of sorrow, sickness of health, the splendor of wealth of the wretchedness of poverty, etc. On the same principle, the giant reminds us of the dwarf and the dwarf of the giant, the white man of the negro and the negro of the white man. The greater the extremes, the more efficiently the law operates; as a very long nose reminds us of a very short one, a very dark complexion of a very light one, a very slender person of a very stout one, a very homely person of a very beautiful one.

Cause and Effect.—It is a law of the memory that things related as cause and effect suggest one another. This law operates in both directions; that is, the cause may suggest the effect and the effect the cause. Thus the knife will remind us of the wound made by it, and the wound will remind us of the knife. Fire makes us think of heat and heat of fire; slavery suggests the civil war and the civil war, slavery; taxes recall the war of the Revolution and the Revolution, taxes. Even a cup of tea may awaken the memory of the struggles of our forefathers in their overthrow of the power of the mother country.

What the Law Embraces.—This law embraces all relations similar to cause and effect, including secondary causes, occasions, accompanying circumstances, etc. Thus attending a theatre may remind one of the death of Lincoln; the stubbornness of King George, of the speech of Patrick Henry, etc. It also embraces such relations as means and ends,—as a machine and its use or the end to be attained by it. Thus a cannon reminds one of war; a locomotive, of a moving train of cars; a mill-stone, of a barrel of flour or a loaf of bread.

Contiguity in Time and Place.—It is a law of the memory, that things associated in time and place suggest one another. Thus Waterloo suggests Napoleon and Wellington, Runnymede reminds us of King John and the Barons, the Sistine Chapel recalls Michael Angelo and his immortal frescoes, the Vatican reminds one of Raphael and the Transfiguration. This law is especially operative in historical facts: thus Oxford reminds us of the burning of Latimer and Ridley; Faneuil Hall, of Otis and Warren; Philadelphia, of Independence Hall and the Declaration of Independence, etc.

Laws Work Together.—These four laws of memory may operate together in producing any train of thought. One link of the chain may be given by one law, another by another law, and some links may be supplied by more than one law. Sometimes it is difficult to tell what law was operative in bringing to mind any particular fact or event; and sometimes it would seem as if the thought arose spontaneously without any one of the laws.

No Invariable Relations.—These laws do not act with a fixed and invariable uniformity,—that is, there is no fixed and invariable relation between the objects of our recollections. The same laws of association do not give rise to the same train of thought starting from the same initial point at different times. Starting at any point, one series of recollections may rise at one time, another at another time, and still another series at some other time. There is thus no fixed and invariable order to our thoughts, except when a certain order has been established by committing a series of objects, as in learning an oration or a poem.

III. THE SECONDARY LAWS.—The Secondary Laws are usually regarded as principles which modify the action of the Primary Laws. The primary laws explain the tendency of certain classes of objects to recur to the mind; the secondary laws account for one object in any of these classes rather than another. This relation of the secondary laws to the primary laws will be better understood by regarding them as laws of retention, as the others are laws of recollection. The Primary Laws are thus regarded as laws of recollection, and the Secondary Laws as laws of retention.

Enumeration of the Laws.—The principal of the Secondary Laws are as follows: 1. Continuance of Attention; 2. Frequency of Repetition; 3. Vividness of Feeling; 4. Recentness of Acquisition; 5. Exclusiveness of Association; 6. Natural Mental Differences; 7. State of the Mind; 8. State of the Body; 9. Professional Habits. All of these laws seem to be conditions of acquisition and retention, and as such modify the action of the primary laws, accounting for one conception rather than another in a train of recollections.

1. Continuance of Attention.—The continuance of the attention upon any object of thought tends to fix it permanently in the memory. The longer I look at anything, the clearer is my conception of it; and clearness of conception is a condition of retention. Continuance of attention seems to deepen the impression of the object on the mind, as the continued pressure of the die on a tablet makes a deep and permanent impression on it.

2. Frequency of Repetition.—Frequency of repetition alsc tends to fix an object of thought in the memory. A paragraph read over once makes some impression on the mind; read several times it becomes a permanent possession. A stanza of poetry is committed by repeating it over and over. The lecturer must review his oration or lecture occasionally or it will slip from his memory. The man who tells his anecdotes or repeats his pet quotations frequently, has them at his tongue's end. In the same way, frequent reviews of the lessons of the school-room tend to make the acquisition permanent.

3. Vividness of Feeling.—Vividness of feeling exerts a strong influence on retention. The event which excites the deepest emotion, whether of joy or sorrow, makes the deepest impression on the mind and is the longest remembered. The earliest recollections of childhood are those which awakened the liveliest feelings of happiness or sorrow; as the gift of a toy, the loss of a pet, etc. The poem or essay or historical incident which touched our hearts most deeply is most easily committed and retained. A man in circumstances of danger will remember the most trifling incidents that occurred. The criminal on trial for his life has been known to retain the most vivid remembrance of the words of the witnesses, the appearance of those present in the court-room, etc.

4. Recentness of Acquisition.—Recentness of acquisition has also a modifying influence on the memory. The lesson learned to-day is clearer in the mind than the lesson of yesterday. The poem committed a year ago is not so easily recalled as the one recently learned, unless it has been frequently reviewed. The lapse of time seems to weaken the impression on the mind, and sometimes the object, once distinctly known, seems to fade entirely out of the memory.

5. Exclusiveness of Association.—Exclusiveness of association is also a condition of retaining and recollecting. The song which we heard sung by only one person, is, when heard again, much more likely to bring to mind that person, than if it had been associated with several other singers. The bond of union is relatively, if not absolutely stronger when there is only one thread of association, than when there are several. This law seems to be more intimately connected with the primary laws, than the rest of the laws of retention, as it is a circumstance of the several laws of association.

6. Natural Mental Differences.—Natural differences of mind cannot be overlooked in considering the power of retention and recollection. Minds differ absolutely and relatively in respect to the power of memory. Some memories are much stronger than others for almost every object of thought; some retain one class of objects, as names, dates, etc., better than another, even when the general power seems no greater. Tastes differ also, and this accounts for some of the differences in the memories of different persons.

7. State of Mind.—The condition of the mind at the time of acquisition has much to do with the tenacity of the memory. Sometimes the mind is clear and bright, and we commit with great ease and readiness; at other times the mind seems dull and sluggish, and we retain with labor and recall with effort. In grief, mental exhaustion, or pre-occupation, the passing events make a very slight impression on the mind and are not usually retained.

8. State of Body.—The state of the body has also a strong influence on the memory. Some days we can commit a lesson much more readily than at other times; and, in some conditions of the body, our thoughts and words flow very slowly and we recall with effort some of the most familiar facts. A slight derangement of any of the bodily functions, or even the condition of the atmosphere, will sometimes seem to affect the memory. When wearied with physical exercise, the memory operates with diminished vigor; when the body feels strong and vigorous, the memory retains and recalls with the greatest readiness.

9. Professional Habits.—Professional and business habits determine largely what we commit and recall. The physician remembers matters pertaining to disease and surgical operations;

and the lawyer has his mind stored with the incidents and pleadings of celebrated trials. The sailor can talk of storms and shipwrecks; the hunter of thrilling incidents of the forest; the politician remembers the political history of his times and the records of public men and parties. The memory of each person is largely determined by the business he follows and the habit of mind created thereby.

IV. THE ONE PRIMARY LAW.—Attempts have been made by various writers on philosophy to reduce the several primary laws to one general principle which shall embrace them all. This subject is of sufficient interest to call for a brief discussion. The one principle which seems to lie at the basis of all these laws is that of *the relation of ideas*, and may be called the *Law of Relation.*

The Law of Relation.—The several primary laws of memory may all be embraced under the one general principle of *relation*. This general law may be stated formally as follows: It is a law of the memory *that related objects of thought tend to recall one another.* A more subjective statement of the law is,—It is a law of the mind that it *naturally tends to think of related objects of thought.* Still another statement of the law is,—*One mental state tends to reproduce some related mental state.*

Basis of the Law.—The reason for this law is found in the natural constitution of the mind. One of the fundamental acts of the mind is comparison, or the conception of relations. All mental activity tends to related thought; our knowledge of things is largely a conception of relations. All mental action is in accordance with this law of the relation of ideas; you cannot conceive of thinking, or of knowledge as the product of thought, without the idea of relations. Relations tend to system; and the mind is thus not chaotic in its operations, but systematic and orderly. This activity in the sphere of related thought operates not only in the reproduction of the old, but also in the evolution of the new. This systematic method of recalling things according to some relations between them, is what we mean by the law of memory; and the statement given explains the nature of and reason for the law.

The Various Relations.—The most prominent relations of objects are those named in the Primary Laws,—similarity, contrast, cause and effect, and contiguity in time and place. The memory operates by other relations also, as that of whole and parts, means and ends, etc.; but these may be regarded as embraced under the four laws already considered. Thus the law of whole and parts may be embraced under that of contiguity; and means and ends under cause and effect.

Applies to all Relations.—The law applies not only to things logically related, but also to things actually related or associated in the mind. It embraces the association of *continuity* and *consecution*, that is, things associated in the same instant of time or in consecutive instants. Thus the words of a sentence, a series of sounds, the letters of the alphabet, etc., suggest one another because they have been actually related in repetition. When there is a relation of thought as well as of juxtaposition, the series is much more readily recalled, as the words of a sentence are much more easily reproduced in their natural order than if the same words were thrown together by chance.

Applies to Feelings.—This law also explains how a feeling can suggest an object, or an object a feeling. The two have been conjoined in an actual experience, and the recurrence of the one tends to recall to mind the other. Thus the feeling with which I read a poem or hear a fine piece of music, when it recurs, tends to bring to mind the poem or the music; so a feeling of disgust associated with an object, when renewed, may recall the object. In each of these cases, too, the object will tend to reawaken the original feeling. For the same reason, also, two objects which have been associated with the same feeling may recall one another, through the common link of this similar emotion.

Law of Redintegration.—Hamilton and some other writers embraced the several primary laws under a general principle, which he calls the *law of redintegration*. The principle may be stated thus: *Objects that have been previously united as parts of the same mental state tend to recall one another.* A law quite similar to this had been previously announced by Aristotle, which Hamilton states as follows: "*Thoughts which have at any time, recent or remote, stood to each other in the relation of coexistence, or immediate consecution, do, when severally reproduced, tend to reproduce each other.*" This is the principle of *prior coexistence* and *immediate consecution.*

Application of This Law.—This principle of *prior coexistence* or *redintegration*, applies readily to the law of *contiguity*, if indeed it be not another expression of the same law. The law of *cause and effect* is also readily comprehended under this principle, since things related as cause and effect are usually united in some previous mental state. In endeavoring to bring the *law of similars* under this principle, it is assumed that the single feature in any object, as A, which reminds us of some other object, as B, containing that feature, does so because this common feature was previously united in the conception B with the rest of B; so that when I see A, I fix my attention on this common feature and then complete my conception by thinking of the rest of B, and thus of the whole of B. In applying the law to *opposites*, it is assumed that they are complements of each other, that neither is complete without the other, as we cannot have the idea of long without the idea of short, and they are thus parts of a larger whole, and the one recalls the other by the completion of the entire sphere of thought of which each is a part.

Principle of Emotions.—The application of this law of coexistence or redintegration to similars and opposites is evidently not very satisfactory. Dr. Brown endeavors to explain it by the influence of sensations and emotions. Thus one object recalls a similar object with which it has never coëxisted by the fact that both have coëxisted with the same or a similar emotion. So opposites reproduce each other by the common feeling with which each was experienced; as a person with a long nose reminds one of a person with a short nose, on account of the common feeling of surprise or wonder each awakens. In this case, the tie or link was a common emotion. Prof. Mahan carries out this idea of Dr. Brown's, and makes the common emotion the sole ground or law of association.

Law of Similar Action.—Dr. Porter, in his attempt to reduce the several laws to one comprehensive principle, announces the following law: "*The mind tends to act again in a manner similar to any in which it has acted before.*" A simpler statement of the same principle is,—*One mental state tends to reproduce some similar mental state.* This law will not, however, explain all the cases of the phenomena of mental reproduction. It fails in its application to opposites, and is not clear in its application to all the cases of the other primary laws. The same is true of Hamilton's law of Redintegration and also the law of Aristotle. The one principle, simple and comprehensive, which seems to cover all the cases, is that of the *relation of ideas*, as has been previously explained. The simple law is that *one mental state tends to reproduce some related mental state.*

III. Remarks on the Memory.

There are several questions of a general character, usually discussed by writers on the memory, to which attention is appropriately called in this place. Among these are the relation of memory to intellectual strength, the failure of memory, the memory of the aged, and effects of disease on the memory.

Strong Memory and Weak Mind.—The question has often been asked whether the power of memory may be regarded as a test of intellectual ability. In reply to this question, we remark first, that a strong memory is often found in connection with weak mental powers in other respects. Persons deficient in the powers of judgment and reasoning will often be found to possess an unusual talent for retaining words and facts. Thus "Blind Tom," who is regarded as almost an idiot, can reproduce a piece of music, heard for the first time, with great accuracy; and it is said that he can tell the name of nearly every hotel at which he has ever stopped, and also the names of the landlords. Many other instances, equally remarkable, can be cited.

Strong Mind and Memory.—It is also true that persons with unusually vigorous minds are often endowed with a remarkable gift of memory. Thus it is said of Pascal, who possessed intellectual powers of the highest order, that he forgot nothing that he had ever read or thought. Leibnitz and Euler were not less celebrated for their intelligence than for their memory; and both could repeat the whole of the Æneid. Ben Jonson, the dramatist, could repeat all that he had ever written, and whole books that he had read. Napoleon Bonaparte, Themistocles, and Dugald Stewart, are also mentioned as remarkable examples of the power of memory accompanying great strength of intellect.

No Fixed Relation.—The relation of the memory to intellectual strength is thus not fixed and invariable; and the power of memory cannot be regarded as a measure of intellectual ability. A weak mind in other respects may have a strong memory. Such cases are so frequent that it gives rise to the belief that a strong memory indicates a deficiency in some other power of the mind. This is not regarded as correct, however, since men of good intellectual abilities often manifest unusual power of memory. The rule is that the strength of memory is proportioned to the general strength of mind, though it is a rule subject to many and striking exceptions.

Failure of Memory.—Failure of memory usually accompanies the failure of the other mental powers. A decline of mental vigor is usually first manifested by a deficiency of the memory. In advancing years, there is often a difficulty in recalling proper names and dates, and sometimes even words in general. Emerson was perhaps one of the most notable examples of this; his conversation for the last two or three years of his life was embarrassing and painful on account of his failure to recall names. The memory of old people often partly fails, while the mind, in other respects, seems to retain its full vigor.

Cause of Failure.—The cause of the decline of memory may be twofold. First, it is probably due in part to some change in the condition of the brain itself; the memory seems to be especially dependent on the condition of the brain. Second, it is partly due to some change in the conditions of remembering. There is less vividness of conception; the senses are not so sensitive and active as they were in early years, and thus the impression made on the mind is not so deep and permanent. There is also a lack of interest in the things about us on account of their loss of novelty. The events taking place belong to a new generation and have lost their interest, and the impression is thus slight and transient. On account of this loss of interest, also, they are not so often reverted to, there is no desire to dwell upon them; hence they lack frequency of coexistence, which is one of the conditions of retention.

Memory of the Aged.—With old persons the remembrance of the past is usually vivid and distinct. Unobservant of passing events, the old man dwells with pleasure on the past. He remembers the events and incidents of his early life,—the sports and companions of his childhood, the triumphs of his young manhood, the achievements of his vigorous prime of life, etc. All these come crowding upon his memory; he lives his life over again in his recollections, and finds his highest happiness in recalling and relating the incidents of his early years.

Effects of Disease.—The memory is often affected by disease. Sometimes after a sickness, the knowledge of a certain class of objects, or of certain persons, or of a particular language, or of a certain class of words of a language, as substantives, is lost to the mind. In other cases a certain portion of the life is obliterated from the memory. Cases of injury to the brain have been followed by the loss of a language, or of the names of objects, while the names of adjectives were easily remembered. Dr. Abercrombie mentions a surgeon who so far recovered from a fall as to give directions in respect to his treatment, but for several days lost all idea of having a wife and children. One of the most remarkable cases is that of Mr. Tennent, who, on recovering from a trance, had lost all the knowledge acquired during his past life, and was obliged to begin his studies at the alphabet, and yet whose knowledge suddenly returned to him a few months afterward.

Disease Excites Memory.—Sometimes disease produces the opposite effect, by bringing back to the mind things long since forgotten. Persons in severe sickness or at the point of death, have been known to converse in a language which they had not spoken since youth. Coleridge tells of a German servant-girl, who in her sickness repeated passages of Latin, Greek, and Hebrew which she had heard her master repeat as he walked in his study. Dr. Rush mentions the case of an Italian in New York, who in the beginning of his sickness spoke English, in the middle of it French, and on the day of his death only Italian. A clergyman of Philadelphia relates that it was not unusual for the Germans and Swedes of his congregation, when near death, to speak and pray in their native languages, which they may not have heard for fifty years.

Inference Drawn.—Some have inferred from these facts that all knowledge is indestructible; that whatever we have known may at some time be brought back to mind. Coleridge and others have derived from them the doctrine of future retribution. Whatever may be thought of these inferences, it is certain that the fact that our past lives may be recalled, and the tendency of the mind to revert to the scenes and incidents of our early life, suggests to us the importance of a well-spent life. A mind stored with pleasant recollections "will cast a cheerful radiance over the past, brighten the uncertain future in those hours of gloom and despondency when the shadows lengthen upon the path of our earthly pilgrimage, and life is drawing to a close."

CHAPTER II.

THE CULTURE OF THE MEMORY.

HAVING explained the nature of the memory, we shall now proceed to the consideration of its culture. This subject can be conveniently discussed under two general heads,—The Nature and Importance of the Culture of the Memory, and the Methods of Cultivating the Memory.

I. NATURE AND IMPORTANCE OF CULTURE.—Under this head we shall consider the following topics: 1. Importance of the Culture of the Memory; 2. Neglect of the Culture of the Memory; 3. Differences of the Power of Memory; 4. Time for the Culture of the Memory.

Importance of Culture.—The importance of a good memory is universally acknowledged. It is of great value in every department of life,—in business, in study, in science, in every avocation or profession. The man who can carry the details of his business in his memory finds it not only a great convenience, but an economy of time and labor. In the study of history, literature, the languages, etc., a retentive memory is invaluable; indeed, no profound attainments can be made in these departments without it. In natural history it is also indispensable; the naturalist must carry in his memory an accumulation of details in order to recognize the objects already described, to form his classification, or to discover new objects not yet observed or described.

Neglect of Culture.—There has been a tendency, in modern times, to neglect the culture of the memory. The ordinary scholar of to-day is not so remarkable for his memory as the intelligent man in ancient times. The multiplication of books tends to diminish the use and thus the power of memory. Formerly, the ability to repeat from memory the contents of entire manuscripts was a valuable accomplishment, and many men were able to do it; to-day men depend on finding the knowledge they may wish to use in books, rather than on holding it in their memories. The reading of a large number of books also tends to weaken the power of memory; the mind is spread over so large a surface that it does not grasp anything with sufficient distinctness to make a permanent impression.

Neglect in Modern Education.—Modern education tends somewhat to the neglect of the culture of the power of memory. The old schoolmasters gave lessons that required the activity of the memory; the modern teacher takes more especial pains to cultivate the understanding. Formerly the test of excellence at school was the amount acquired; now the test is largely the power of reasoning. Memory studies have given place to thought studies; pupils are thus taught to rely on their reason, and to value the culture of thought power more than the acquisition of knowledge. Though this may be an improvement over the old method, the fact is evident that there is a tendency in modern education to neglect the culture of the memory.

Differences of Memory.—In the culture of the memory, it should be remembered that there are great differences in the natural power of this faculty. Minds differ more strikingly in this respect than in any other faculty; or at least the differences are more apparent than in the other faculties. They differ, too, both in respect to general power and special objects. Some persons remember anything better than other persons; some remember one class of objects, as dates and names, while there is no superiority in general power.

Cause of the Difference.—This difference is due partly to nature and partly to culture. Some persons can tell the day of the month or week of nearly every prominent event of their lives, without making any special effort to remember them. Such manifestations of the power of memory as that of Euler, Pascal, etc., are due to an unusual natural gift of this capacity. Natural differences of taste create a difference in the power of the memory, as we remember those things best in which we feel the liveliest interest. The difference is due sometimes also to culture. Education often determines the taste, and thus affects the retentive power of the memory. If early associations have directed the mind in the study of language, history, etc., the person will naturally excel in the acquirement of these branches.

Instances of Remarkable Memory.—Historians and writers on mental philosophy mention some remarkable examples of the power of memory. Cyrus, it is said, knew the names of all his officers—Pliny says, of all his soldiers. Themistocles could name every one of the twenty thousand citizens of Athens. Hortensius, after sitting all day at an auction, could at night recall every article sold, the purchaser, and the price. Dr. Wallis, while in bed in the dark, extracted the square root of a number of fifty-three places to twenty-seven terms, and repeated the result twenty days afterwards. Euler, blind from early life, carried in his memory a table of the first six powers of the series of natural numbers up to one hundred. Two of his pupils, in calculating a converging series, found, on reaching the seventeenth term, that their results differed by a unit at the fiftieth figure; and to decide the question he made the calculation mentally, and his result was found to be correct.

Hamilton tells us that Muretus saw at Padua a young Corsican who could repeat thirty-six thousand names, in the order in which they were given to him, or repeat them in the reverse order, or begin at any point in the list and repeat both ways. The celebrated Magliabecchi, librarian of the Duke of Tuscany, it is said, could name all the authors who had written upon any subject, giving the name of the book, the words, and often the page. A gentleman of Florence, to test his memory, lent him a manuscript to read, and afterward, pretending to have lost it, requested him to endeavor to recall it, which he did with great exactness. It is also stated that upon being asked by the Grand

Duke if he could procure for him a copy of a certain book, he replied, "No, sir, it is impossible; there is but one in the world; that is in the Grand Seignior's library at Constantinople, and is the seventh book, on the seventh shelf, on the right hand as you go in."

Time for Culture.—The special time for the culture of the memory is youth. The habits of the mind are then formed; and the power of memory depends largely upon mental habits,—upon the habits of attention, concentration, systematic thought, etc. Careless habits of reading, study, and observation manifest themselves in impaired powers of retention. The mental dissipation of novel and newspaper reading exercises a pernicious influence on the memory; and young people should be carefully guarded against acquiring them.

This training of the memory should be continued through life. The tendency of advancing years is to lead to forgetfulness. The habit of conversation and an occasional review of one's knowledge will keep the acquisitions somewhat fresh and make them more easily recalled. The daily practice of systematic reading and study, with frequent reviews of what is read, will aid in preserving the memory comparatively strong into good old age.

II. METHODS OF CULTURE.—Under methods of cultivating the memory, we shall present the various methods of increasing the power of the memory, and show their application to the several studies which depend more particularly on this faculty.

By Exercise.—The faculty of memory, like every other faculty of the mind, is cultivated by exercise. This exercise should be judicious in kind and quantity. The things to be remembered should be adapted to the age and mental ability of the pupil. There should be facts for the young mind and principles for the older mind. Care should be taken also that the mind is not overtaxed; for, like an overstrained muscle, the mind may be weakened by excessive labor. Cramming weakens the memory, as physical cramming weakens the stomach. Students who have been overtaxed with their studies, often find that the memory seems to fail; and only absolute rest for a time will restore the vigor of the faculty.

Grasp Clearly.—The pupil must be trained to grasp the subjects of thought clearly. Clear conception is the fundamental condition of tenacious retention. The mind thus gets the object within its grasp, obtains a firm hold of it, and is enabled to keep it in its possession. That which is only partly cognized, or which is, as it were, merely touched by the mental fingers, soon slips away. The lesson which has been completely mastered, is retained with comparative ease; the lesson which was only half learned, soon vanishes.

How to Grasp Clearly.—To give distinct ideas to the mind, objects and illustrations are of value, especially to the young. The concrete method of teaching is thus adapted to the training of the memory. The writing out of what we wish to remember will also aid in clearness of mental conception. The eye will aid the ear, and the mind will be doubly impressed by the use of both senses. The oral expression of what we wish to remember, is a good test of clearness of conception; and aids also in giving those clear and definite ideas of a subject which are readily retained.

Continued Attention.—The habit of continuity of attention must also be acquired. The longer the mind dwells upon an object, the more deeply it seems to be impressed on the memory. Attention, in relation to the memory, seems to operate like the die upon a waxen tablet; the longer the pressure is continued, the deeper and more permanent the character becomes. The mind that flits from one thing to another, seldom has a clear and distinct remembrance of anything; the concentrated energy of the mind on a few objects of thought makes them a permanent possession.

Gives Clear Conceptions.—Attention to objects of thought affords clear conceptions of things, which is one of the fundumental conditions of a good memory. Attention gives the mind distinct and well-marked mental pictures of objects, and clear and adequate ideas of the more abstract subjects of thought; and without clearness and definiteness knowledge soon vanishes. A careless and inattentive mind becomes a sort of dim, cracked looking-glass, reflecting things in all kinds of blurred and crooked fashions, so that what it does remember will lack accuracy. One of the first rules, therefore, for the cultivation of the memory, is to give due attention to things.

Vividness of Feeling.—The feelings exercise a strong influence upon the memory. The more vivid the feeling in respect to any object or event, the longer it will be remembered. The incidents of childhood that gave us the highest joy or deepest sorrow, as a visit, a new toy, the loss of a pet or a parent, are never forgotten. The event that occurred during excitement is flashed deep into the memory in all its details, and is a permanent possession. The railroad accident or the storm at sea impresses the most trivial and unimportant events indelibly on our memory.

Value in Education.—This principle should be employed in giving culture to the memory of students. There should be an effort to awaken interest in what is to be remembered. A listless habit of mind will acquire few permanent impressions; ideas that come into the mind when we are in an apathetic state, make no permanent lodgment there. We should, therefore, endeavor to awaken a lively interest in that which is the subject of study. Lessons should be made attractive, the minds of pupils should be made to glow with a feeling of interest in their studies, a deep feeling of earnestness should be aroused, and every means possible made use of to cultivate a desire to know and a fondness for acquisition. "Love, in fact, is the parent of memory."

By Repetition.—Frequent repetition is one of the means of strengthening the memory. Repetition, as already explained, is one of the conditions of acquisition and retention. A lesson, an oration, or a poem, is fixed in the memory by frequently repeating it. Repetition seems to impress the idea, as the repeated pressure of the die on the tablet deepens the characters impressed. The mind tends to repeat a mental state or series of mental states in which it has often been found.

Repetition Intelligent.—This repetition should be intelligent and attentive; not the mere mechanical repeating of words with a wandering mind. "Learning by heart" is often a mere learning by sense or sound, and not by the mind. The parrot-like repetition of words may impair rather than strengthen the memory. The mind must accompany the word, if we wish to acquire quickly and permanently. In repeating a poem "learned by rote," when brought to a stand-still, we often have to go back over a stanza, till we fall in with "the swing of the rhythm and are carried over the sticking place."

Knowledge Reviewed.—Knowledge should thus be frequently reviewed. The recitation of a lesson impresses the subject more deeply than when it is not recited. Frequent reviews are also valuable in this respect; a constant review of the leading facts and principles of a study should be kept up, in connection with the lesson in advance. A habit of reviewing one's knowledge occasionally, after leaving school, should be adopted. The history should be thought over, the poem repeated, and the books re-read, if we would keep our knowledge fresh and accurate.

State of Mind and Body.—To acquire and retain well, the body and mind should be in a healthy condition. Coleridge says that the requisites of a good memory are *sound logic*, a *healthy digestion*, and a *quiet conscience.* The first refers to the condition of the intellect, the second to the condition of the body, and the third to the condition of the moral nature; and all of these are concerned in and affect the memory. When the mind is depressed or its free activity interfered with, the power of memory is weakened; when the intellect works clearly and with vigor, the memory will be strong and ready. So also when the body is suffering with disease or pain, the attention will be distracted and things make but a slight impression on the memory; but when there is that exuberance of feeling which flows from good health, the mind seizes with vigor and holds with tenacity whatever is presented to it. A disturbed conscience also produces that disquiet that distracts the attention and impairs the power of memory; while a clear and quiet conscience gives that calm and peaceful condition of the mind that is conducive to the best efforts of the memory.

By Association.—To train the memory, we should accustom it to habits of systematic and related thought. Such an association is the foundation of a good memory. Without this, the memory is like a chest of drawers full of tossed and tumbled articles, where the right one is hard to find. With it, it is like the wise business man who has boxes, and drawers, and compartments, and pigeon-holes for his different papers,—a place for everything and everything in its place,—where he can lay his hand upon what he needs whenever it is wanted. The three laws of association, especially useful in cultivating the memory, are those of *similarity*, *contiguity in time and place*, and *cause and effect*. The memory operates spontaneously according to these laws; but we should endeavor, by a special effort, to associate our knowledge by the natural laws of acquisition and retention.

Law of Similarity.—Knowledge should be associated by the law of *similarity*. This is one of the simplest of the primary laws of memory, and one which controls the earliest activity of the mind. The aim of the student and teacher should be to aid nature in the action of this law, so that it may become a fixed habit of the mind. The principle may be applied in remembering a great variety of objects. Words similarly spelled or pronounced may be grouped together, similar words in different languages may be compared, cities of nearly the same population and states and counties of nearly the same size may be associated, and attention called to historic events occurring on the same day or during the same year. The habit of associating similar things will enable one to remember many facts that would otherwise slip away from the memory.

Time and Place.—The law of contiguity in time and place can also be employed in strengthening the memory. This law applies especially to the remembering of the facts of history. Events occurring at the same time, or on some given day, or during some particular period, may be linked together by the tie of time. Thus we can easily remember, that Adams and Jefferson died on the same Fourth of July, 1826; that Lee retreated from Gettysburg and Vicksburg fell on the Fourth of July, 1863; that the battle of Pittsburg Landing and the capture of Island Number Ten occurred on the same day, etc. So also events occurring at the same place, or in the same city or country, may be so associated that they will recall one another.

Eras and Epochs.—So also the events and persons of an age or era may be readily remembered by being associated. The Elizabethan era will readily give, not only the approximate date of the time of Elizabeth, but also of Mary Queen of Scots, Raleigh, Sidney, Shakspeare, the Spanish Armada, etc. Associating the Augustan age with the beginning of the Christian era, we can readily remember when Antony, Cleopatra, Cicero, Virgil, etc., lived. Remembering that Socrates was the teacher of Plato, Plato of Aristotle, and Aristotle of Alexander, by remembering the date of either one we can approximate the dates of the others with sufficient accuracy for all practical purposes.

Cause and Effect.—The law of cause and effect, including means to ends, should be used to aid and strengthen the memory. This law will be found especially valuable in remembering the facts of history which bear this relation. To relate the Revolution and the facts which led to it as the cause, will aid in fixing these events in the mind. The Protectorate of Cromwell and the revolution which led to it are best remembered in their connection of cause and effect. The events associated with the battles of Solferino and Magenta are better understood and more easily retained when read in their relation to a United Italy. The habit of linking historic facts in this way will greatly facilitate the study of history.

Classifying Knowledge.—The memory can be aided by the careful classification of knowledge. The habit of writing outlines of the subjects studied or read, gives systematic arrangement to facts and principles, which greatly facilitates the power of acquisition. It gives a bird's eye view of the entire subject, enables us to see the relation of the parts, and impresses the mind both on account of a clearer conception of the subject and a view of the relations.

Kinds of Outlines.—These outlines may be either logical or topical. Many subjects will admit of a logical relation of the parts, so that one part is seen to be contained in and to grow out of another part. Some subjects will admit of only a topical relation of facts, but even a topical connecting of facts increases the clearness of view and enables the eye to aid the thought in fixing the impression.

Special Artifices.—There are some special artifices which have been found useful in remembering a certain class of objects or words. The two most convenient and practical are those of *verse* and *key-words.* Thus the number of days of the month is most conveniently remembered by the couplet, "Thirty days hath September, etc." The couplet, "To be easy all night, Let your supper be light," serves to impress a law of health that many people are apt to forget. An arrangement of the kings of England in verses similar to the following, probably assists the memory of the youthful learner:

"First William the Norman, then William his son,
Henry, Stephen, and Henry, then Richard and John.
Next Henry the third, Edwards one, two, and three;
And again after Richard, three Henrys we see," etc.

Use of Key-Words.—Key-words are often valuable in remembering a series of abstract terms. Thus the word *vibgyor* gives the order of the colors of the spectrum, and also the formation of the secondary colors from the primary, and thus also the complementary colors. The term *Dic* will give the order of the three styles of Grecian architecture, the Doric, Ionic, and Corinthian, and aid in remembering them by the relative order of ornamentation. The term *Tisp* I have found valuable in fixing the four kinds of dissyllabic feet, the Trochee, Iambus, Spondee, and Pyrrhic; and also the term *Daat*, for the principal trisyllabic feet, suggesting by the order of the letters the name of each.

Use of Sentences.—A list of names in their order can be remembered by a sentence, the initials of whose words correspond with the initials of the series to be remembered. Thus young persons studying history can fix the names and order of the presidents of the United States by the following sentence: "Will a jolly man make a jolly visitor? Honor the person that finds pleasure by losing jolly guests having great ancestors." A still better sentence is the following: "Washington and Jefferson made many a joke; Van Buren had trouble plenty to find poor bank-notes. Let Johnson go home greatly agitated." The sentence, "I seize a sieve," will enable one to remember the order of the *e* and *i* in the two words *seize* and *sieve.*

Systems of Mnemonics.—Systems of Mnemonics have been invented from time to time, and recommended by various persons. They consist in some arrangement for making an artificial association between something used as a key and that which is to be remembered. To illustrate, suppose we commit a series of objects, numbering them from one to one hundred. Suppose number one is a *pump*, number two a *bear*, number three a *goose*, etc. Now to apply this to the kings of England, we might associate James I. with the pump, Charles I. with the bear, Charles II. with the goose, etc. The association might be impressed by a humorous relation; as, "James pumps water on a bear which swallows Charles I. while Charles II. rides away on a goose."

Value of Mnemonics.—In favor of such a system it may be said that wonderful feats may be performed by it in the remembering of abstract terms and dates. But the disadvantages are greater than the advantages. It trains the mind to an artificial relation, and thus weakens its power by neglecting to cultivate the natural method of association. The kings of England, for instance, should be remembered by their actual relation to one another and to historic events. The mere recollection of their names is of little value to the student. Besides, unless we are in constant use of the system, the key itself will vanish from the memory, and then everything goes with it.

III. APPLICATION IN TEACHING.—All of the principles to which we have called attention will be found of great value to the student and teacher. A few suggestions for the application of these principles in the work of instruction will be of interest to teachers.

The Alphabet.—In teaching the alphabet, the letters may be associated with forms that are similar to them; as the letter O with a ring or hoop, the letter A with a harrow, the letter X with a saw-horse, etc. Letters that are similar may be compared and those that are dissimilar contrasted. Teachers and writers of primers have found it useful to associate letters with words; as "A for an Apple, B for a Book, C for some Candy, and D for a Duke." Such illustrations attract the attention, awaken an interest, and connect by the thread of association,—all of which are means of remembering.

In Orthography.—The law of association can be employed in the study of orthography. Words of similar orthography should be associated; as, *fast*, quick, and *fast*, to abstain from food. Words of similar pronunciation and unlike orthography may be associated, the correct spelling being impressed by the contrast; as, *choir* and *quire*, *there* and *their*, *vein*, *vain*, and *vane*.

Words whose orthography it is difficult to remember may be associated with other words similarly spelled. Thus, to remember whether the *i* or *e* comes first in piece, it may be associated with *pie* in the expression "a piece of pie." A lady remembered that there were two *e*'s together in *agreeable* by being told to associate it with the fact that there were two agreeable gentlemen present when she asked the question. The word *Alice* is a key to the relative position of *i* and *e*, in such words as *conceive* and *believe*, when preceded by *l* or by *c*; from which we can remember that *e* precedes *i* after the sound of *s*, and *i* precedes *e* after all other consonants. Some such artifices of association are especially valuable in those peculiar cases in which we are confused in the spelling of particular words.

In Geography.—The principle of association is especially valuable in the study of geography. In this way the size of states, the population of cities, etc., can be associated and readily retained. Thus take Pennsylvania, 46,000 square miles, for a standard; and we have approximately, New York=Pennsylvania; Louisiana=Pennsylvania; Nevada=2 times Pennsylvania; Texas=5 times Pennsylvania; England=1¼ times Pennsylvania; Scotland=⅔ of Pennsylvania; Ireland=¾ of Pennsylvania; France=4½ times Pennsylvania; Switzerland=⅓ of Pennsylvania; Denmark=⅓ of Pennsylvania; etc.

Or again: England=Alabama (50,000); Scotland=Maine (30,000); Ireland=Indiana (33,000); Cuba=Tennessee (42,000); France=4 times Alabama (50,000); Brazil=United States=Sahara Desert, etc. Taking Philadelphia as a standard, we may remember that the population of the following cities is about the same: Berlin, Vienna, Liverpool, St. Petersburg, Calcutta.

Outlines of Subjects.—The classification of geographical facts by an outline is also of special value in learning geography. It enables us to classify our knowledge, which is a condition of remembering it. An outline will also suggest facts which otherwise would not be recalled. It is especially valuable with classes in the recitation, enabling them to obtain their knowledge from any book, and to recall what might otherwise have slipped the memory.

In History.—These principles are especially applicable in studying and teaching history. History is purely a memory study; and whatever we may do to aid the memory will enhance our knowledge of history. The memory can be aided in the study of history by associating the facts in accordance with two of the primary laws of memory, those of cause and effect and contiguity in time and place.

Cause and Effect.—First, facts should be associated, so far as possible, by the law of cause and effect. The mind naturally associates the events of history with the causes which produced them, and also looks forward from the facts to the results which flow from them; and such an association tends to fix the events permanently in the memory. Thus, we may see the relation of the corruptions of the people of Rome and the dissensions of the rulers to the fall of the Roman Empire; the preaching of Peter the Hermit to the Crusades; the extravagance and corruption of the French rulers to the French Revolution; the French Revolution to the wealth of the French people; the persecution of the Puritans to the settlement of New England; the settlement and annexation of Texas to the Mexican war; etc.

Same Time or Place.—Second, facts occurring at the same time or place may be remembered by associating them together. Thus Hannibal and Scipio, the two great opposing generals, died the same year, 183 B. C.; the fall of Greece and Carthage occurred on the same year, 146 B. C.; Francis I. and Henry VIII. both died in 1547; Charles V. and Mary Tudor both died in 1558; the fall of Granada and discovery of America occurred in 1492; the battles of New Orleans and Waterloo were fought in 1815. So also we may associate events occurring an exact number of centuries apart; as Mexico conquered by the Spaniards in 1521 and her independence secured in 1821; or Bacon's Rebellion in 1676, and the Declaration of Independence in 1776.

Eras and Epochs.—Third, there should be a classification of facts into epochs or eras. In every country there are great leading events which stand as historic centres or nuclei around which revolve the minor events. Fixing the time of the principal or central events, we have a key to the dates of the facts related to them and growing out of them. Thus, the Age of Pericles, the Age of Augustus, the Age of Elizabeth, the Crusades, the Reformation, etc., coördinate events and persons in a way to be easily remembered. In the history of the United States, such divisions as discoveries, settlements, the French and Indian war, the Revolution, the Civil War, etc., will serve to group the events of the country in a way to facilitate their acquisition and retention.

THE IMAGINATION.

CHAPTER I.

THE NATURE OF THE IMAGINATION.

THE IMAGINATION is the faculty by which we form ideal conceptions. It is the power of forming mental images by uniting different parts of objects given by perception, and also of creating ideals of objects different from anything we have perceived. Thus, I can conceive of a flying horse by uniting my ideas of wings and a horse; or I can imagine a landscape or a strain of music different from anything I have ever seen or heard. Imagination may thus be defined as *the power of ideal creation.*

Origin of Term.—The term Imagination is derived from *imago*, an image. The etymology of the term indicates that its office is the formation of images; and this was the primary idea of the faculty, as the simplest products of imagination are images, or pictures of objects. But it is not restricted to mere picture making, for it can conceive of ideals in every department of mental activity. Thus it can conceive of a sound or a feeling as well as a statue or a landscape.

The Representative Element.—The Imagination consists of two elements; a power which represents and a power which determines what to represent. The representative element of the imagination is regarded as the same as the representative element of the memory, but differently applied. In the memory, the images are formed according to the real and actual; in the imagination they are formed according to the ideal and possible. The representative power in the memory gives an exact transcript of some previous cognition; the imagination rises above the office of a mere copyist, and originates and represents new products. But in both cases the representative element seems to be the same power working under different circumstances. In the former case, memory determines what it represents; in the latter case a creative power of the mind uses it to body forth new ideals.

Relation to Memory.—The faculty of imagination is closely related to the memory, though there is an essential difference between them. In an act of memory there is first a conservation or retention of knowledge; second, a recalling or reproduction of past experience; third, a picturing or representation of what is recalled out of unconsciousness; and fourth, a recognition of what is recalled and represented as something of past experience. The materials of the representation are supplied by the recollection of what has been previously experienced and preserved in the mind. Retention and recollection lie back of and determine the representation. In imagination the power of ideal creation lies back of and determines the representation. We represent, not what we have retained and recalled, but what the mind itself originates. In memory the representation is regarded as one of the elements of memory; so in imagination we may regard the representation, as well as the power which determines the representation, as an element of imagination.

Illustration of Each.—To illustrate, I think of the home of my boyhood. It is pictured before my mind as if I were a boy again beholding it. I see the house, the garden, the barn, the orchard, just as they were when I was a lad at home. It is a picture of memory; the materials being supplied by recollection, and the image formed by the representative element. In imagination I can tear down the old homestead and build a new one, enlarge the barn, plant a new orchard, etc., and thus cause a picture of a new and more beautiful home to stand distinctly before my mind. This is a picture of the imagination. The materials may be supplied partly by the memory and partly by the creative power of the mind; but they are all united into a single product by the plastic power of Imagination.

I. THE PRODUCTS OF IMAGINATION.—The products of the imagination are twofold; *New Combinations* and *New Creations.* By New Combinations we mean the combination of past perceptions into new forms, so that though the product may be new as a whole, the parts of which it is composed may be old. By New Creations we mean mental products in which not only the ideal as a whole, but each of its parts, shall be new. These differences actually exist in the products of the imagination, and need a name; and it seems proper to distinguish them as New Combinations and New Creations.

New Combinations.—The imagination has the power of combining old perceptions into new forms, giving us products which as wholes are not found in nature. Thus it may combine different parts of actual landscapes, forming an ideal landscape such as we have never seen. Or, it may unite the ideas of a horse and wings, giving the conception of a flying horse. Pegasus, the flying horse of Grecian mythology, is a product of the imagination. A mountain of gold, a land flowing with milk and honey, are also examples of ideals consisting of a combination of old conceptions.

New Creations.—The imagination can also form ideals which are not composed of previous perceptions, but which. though similar to, are different from and superior to our perceptions. Thus it can form an ideal landscape in which none of the parts are copies of any landscape we have seen, but which is in every respect an original product. It can imagine strains of music not found in nature or in the works of any musician. It can form ideals of beauty that are different from and superior to anything found in nature. Such products may be properly called new creations.

Difference Illustrated.—This difference may be illustrated in the fine arts of painting, sculpture, music, poetry, etc. Thus an artist may paint a picture in which the grove, the river, the meadow, the moss-covered bridge, etc., are copies of things he has sketched from nature; or he can paint a picture in which these features, as well as the whole picture, are ideals, so that not one object in the painting is a copy of anything he has seen. The sculptor can unite in a statue lips, forehead, nose, head, neck, etc., each feature being a copy of what he may have seen in different persons; or he can give us a statue in which every feature as well as the whole figure is his ideal of beauty. If we examine some pieces of music we shall find that though new as a whole, they are made up of old strains borrowed from different authors; but when Beethoven composed, there came welling up from the depths of his wonderful imagination, melodies and harmonies never heard before by human ear. The former are mostly new combinations of the old; the latter are new creations.

The Elements Associated.—These two elements are often associated in the same production. Thus one portion of a work may be merely a combination of old percepts, while other portions are pure ideal creations. Much of the work of imagination consists in improving on or idealizing nature. Many portraits are not exact copies of the face, but are touched up by the fancy of the artist towards an ideal of perfection which the real face merely suggests. Even in the description of a real object or an actual landscape, imagination supplies many missing links, and gives a vividness and glow to the picture that pure memory cannot afford. In many of our so-called pictures of memory, the memory is not sufficiently exact to supply all the details, and these are filled out by the imagination. Fact and fancy are thus often united both in our recollections and in our imaginations.

Important Distinction.—This distinction between new combinations and new creations is a very important one, and if clearly understood will prevent the mistakes and misunderstandings that have occurred among writers on this subject. The test of a new combination is that the parts are percepts,—an exact image of something previously experienced: the test of a new creation is that no element is a percept,—an exact transcript of any previous experience. My mental picture of a horse, for example, may be an exact transcript of some horse I have seen; if so, it is a picture of memory. It may be unlike any one horse, but composed of parts of different horses I have seen; it is then a new combination. It may be not only new as a whole, but no part of it may be an exact transcript of any horse I have seen; it is then a new creation. Imagination is thus seen to be more than a power to combine old perceptions, as some have erroneously taught.

II. FORMS OF IMAGINATION.—Imagination may act in different ways, and give us products which differ in respect to their harmony, dignity, etc. These differences enable us to distinguish several distinct forms of the imaginative faculty. These forms may be embraced under three general classes; those of Phantasy, Fancy, and Imagination proper.

The Phantasy.—The imagination can combine the parts of objects in entire disregard of the laws of harmony and unity, giving us products such as never occur in nature. Thus it may place the chimney of a house upon the hump of a camel, the head of a donkey on the neck of a man, or the head of a man on the shoulders of a horse. These products are grotesque or fantastic; and this form of imagination has been called Phantasy. This is the form which gives us the caricatures in illustrations and descriptions, and is the source of the various forms of wit and humor.

The Fancy.—The imagination can unite objects or ideas under the more natural laws of association in forms attractive to the feelings and approved by the taste, yet without the higher ends of ideal creation. This form of the imagination has been called Fancy. It gives us many of the images of literature which claim our admiration, but which lack the unity, dignity, and perfection of the products of the higher imagination. Many of our poets deal largely with images of the fancy. Longfellow's comparison of the moon to a school-boy's paper kite is a mere fancy. The imagination of children and young poets inclines to the fanciful. Shakspeare's earlier writings partake more of the fancy than his later productions.

Imagination Proper.—When this faculty combines and creates according to the higher laws of thought and taste, embodying pure, lofty, and noble products in ideal forms, we have the Imagination proper. This is the artistic power of the mind, the power that gives us poetry, eloquence, music, sculpture, architecture, etc. Here we find the power of genius, the gift divine which gave immortality to Shakspeare and Milton, to Raphael and Michael Angelo, to Demosthenes and Cicero. Out of this form of the imagination have arisen the great poems and fictions, the great paintings and statues, all those works of art which command the admiration of the world, and crown their authors with the chaplet of an undying fame.

I. The Laws of the Imagination.

Having given a general idea of the imagination, we shall now consider some of the circumstances or laws of its activity. These circumstances or laws, we shall find, are quite similar to those which we have already discussed under the memory. This similarity is not a matter of surprise, since they are both representative powers, and seem to involve the activity of a common representative element.

Imagination Involuntary.—First, we remark that many of the products of imagination are entirely involuntary. They arise of themselves, without any effort of the will, uncalled for and unwished. We often sit in a meditative or half-dreaming mood, when thoughts, memory, and imagination all seem to operate involuntarily. In a "train of thought," so-called, which seems to move forward without an act of volition, much of it will be purely imaginary,—past thoughts, new ideas and fancies, all seem to be blended together. The day-dreams of childhood and youth are usually not the result of an intentional effort of the mind; the fancy builds its air-castles sometimes almost against the protest of the judgment Some minds are so constituted that the imagination is constantly excited to activity by what they see and hear; every object of nature seems to suggest an image or an analogy. This is the poetic mind described by Longfellow: "His thoughts were twin-born; the thought itself, and its figurative resemblance in the outer world. Thus, through the quiet, still waters of his soul each image floated double, 'swan and shadow.'"

Imagination Voluntary.—The imagination is also voluntary, as well as involuntary. Though images and figures often spring up involuntarily in the mind, yet they may also be produced by a direct effort of the will. We may build our air-castles, construct our figures, produce our imaginary incidents, or create an image of beauty, intentionally. Thus in writing, a person may hold himself down to a plain statement of facts and principles, or he may adorn his composition with the light of fancy. The essayist can adapt his style to his subject, being simple or ornamental at his will. The orator often relieves the monotony of a dry statement or abstract argument by a brilliant metaphor, a flash of wit, or a sparkling analogy. The eloquent peroration often glows with the figures and feelings that the speaker calls up out of the depths of a vivid imagination.

Principle of Suggestion.—The imagination operates in accordance with the law of association and suggestion. Many of our fancies are suggested by sensible objects or by other images or fancies. The principle of analogy is usually operative in the forming of the images of the imagination. As the real images of the memory suggest one another, so do they suggest the unreal or ideal images of the imagination. One image calls out another image, one fancy another fancy, one strain of music another strain, one poetic thought another, etc. It is in this way that many of the figures of poetry arise. The freshness of morning suggests childhood and youth, and we say, "Youth is the morning of life;" the delicate whiteness of the lily reminds us of purity of character, and we say, "She is pure as a lily;" the oak reminds us of endurance, and we say, "He stood like the oak on the mountain;" the lion becomes the type of courage, and we say, "He is the lion of the tribe of Judah."

Often Spontaneous.—Though the law of association is usually operative in an act of the imagination, yet it may operate with spontaneity. Many of our imaginings are not only involuntary, but are purely spontaneous; that is, they are not suggested by any ideas or objects. In other words, they are not a part of a train of associated ideas and images, but arise in the mind with pure spontaneity. It is not necessary, as some have taught, that every act of the imagination should have been determined by some antecedent act of the mind. The mind has the power of creating an image of beauty, a picture of a landscape, or a stanza of poetry, unsuggested and at its own will, without its being conditioned by something immediately preceding it in the mind. In this respect it is like the memory, which, though often controlled by the laws of association, may also act independently of them. It is thus manifest that the imagination is not bound down to an inexorable law of antecedence and consequence in its operations, but is a free and spontaneous activity.

Ambiguity of Suggestion.—Care must be used in employing the term suggestion in respect to mental products, or it will lead us into a serious error in regard to the mind's operations. This error consists in conceiving of the mind as a passive instrument operated upon by ideas, these ideas causing it to produce other ideas. Such a conception is totally false. The mind is a self activity and a cause of its own ideas. It operates by certain laws inherent in its own nature. One of these laws is that having one idea in the mind, it naturally passes to a similar idea or one related to it. The true statement is that the mind passes in its creations from one idea to a similar or a related idea; and this is all we mean by ideas suggesting one another. The idea is passive, has no power to suggest; it is the mind that acts and passes from idea to idea by the laws of its own being.

Sensible Forms.—The tendency of the imagination is to clothe its conceptions in sensible forms. The most of its creations are embodied or manifested in elements afforded by the senses. The senses give us our ideas of form, color, sound, motion, etc.; and these are the materials most frequently used by the imagination in its creations. The larger part of its ideals, no matter how elevated or refined, are put forth in some one or more of these elements of the senses. Thus our ideals of a statue, a landscape, a strain of music, etc., are all related to objects of sense. A figure of rhetoric is the expression of the relation of one object to another, or the representation of an abstract or spiritual element in sensible form; as, "The rose is the queen of flowers," or, "Truth is the king of virtues."

Abstract to Concrete.—The imagination tends naturally to convert abstract ideas and thoughts into sensible forms. It is this faculty, more than any other, that tends to carry over our abstract notions from the world of abstraction to the world of sense. Thus we speak of *purity* as a *crown*, of *lowliness* as a *ladder*, of *modesty* as a *jewel*, of the *attraction* of the earth as the "elastic thread of gravity," etc. By this power the orator makes the abstract and intangible stand before the mind's eye in sensible forms. The faculty of imagination thus "bodies forth the forms of things unknown" and, as it were, "gives to airy nothings a local habitation and a name."

Not Restricted to Sight.—The imagination is not restricted to any one class of objects of sense. Though it seems more frequently to fashion its products after the ideas afforded by sight, yet it is not merely a picture-making faculty. It deals with objects of sound as well as of sight. We can conceive the song of a bird, or a melody on a flute, or melodies and harmonies, independent of any instrument, all different from any we have ever heard. The musician imagines how his music will sound before he expresses it in notes or plays it on an instrument. Through the mind of deaf old Beethoven floated melodies and harmonies more enchanting than had ever before fallen on human ear.

Acts in All the Senses.—The imagination is not restricted to sight and sound, but it may deal with the products of all the senses. Thus we can in imagination enjoy the taste of a good dinner, or the fragrance of a flower, or experience the feeling of lassitude, pain, etc. The *gelidae fontes* of Virgil, it has been said, awakens a feeling of delicious coolness, as well as an image of sparkling beauty.

II. LIMITS AND SPHERE OF THE IMAGINATION.

Having given this general description of the nature and laws of the imagination, we shall now proceed to discuss its limits and the sphere of its activity.

I. LIMITS OF THE IMAGINATION.—The imagination has a certain range of activity, beyond which it cannot operate. It is thus limited in its operations; and it is proper to understand just what these limitations are.

Limited by Space.—The imagination is limited in its operations by the condition of space. First, we cannot imagine space not to exist; the imagination cannot annihilate space. Second, it cannot, in any of its operations, step outside of spatial conditions; whatever I conceive must be in space. Third, if its conceptions relate to a material object, such object must possess some of the elements of space.

Limited by Matter.—The imagination is limited by the several laws of material existence. This follows from the relation of matter to space, as the condition of its being. As limited by the elements of space, the imagination is necessarily limited by all the essential qualities of matter determined by space. It can vary these qualities, but it cannot conceive of a body that does not possess the primary qualities of bodies. Moreover, it cannot create a new primary quality of bodies. It can conceive of a body without some of the secondary qualities, but it is doubtful whether it can create a new secondary quality. Given the two primary colors, *blue* and *yellow*, it is doubtful whether we could ever imagine the result of their combination, *green;* though Hume thought we could. We may vary the combinations and relations of the secondary qualities, conceive of imaginary bars of gold floating in water, or pieces of cork sinking, like bars of lead, to the bottom; but no stretch of the imagination can create any new property, such as color, form, weight, flavor, etc.

Limited by Time.—The imagination is limited by the condition of time, as well as of space. Whatever it represents or conceives must be in the sphere of time. All of its creations must be either past, present, or future. It cannot imagine an event outside of time; but in this sphere it has unlimited range. It can imagine past events as actually taking place, put itself amid scenes that occurred thousands of years ago, or sweep forward on bolder wing and picture what may take place thousands of years to come. But it cannot transcend these limits and originate events anterior or subsequent to time, or conceive events that are not related by the element of time.

Limited by the Mind.—The imagination is limited by the general laws of mind as revealed in consciousness. We cannot, by the imagination, create a new faculty, or conceive of a spiritual existence having faculties entirely different from those of the human mind. We may modify the action of these faculties; increase or diminish their power; invert, mix, and confuse these activities; or we may even destroy one or more of the faculties altogether. Thus, we may imagine a sub-consciousness, or a dual consciousness, by which a person may carry on two independent lines of mental activity; but we cannot imagine a mind without any consciousnesss whatever. We may conceive of a mind that can remember objects and not names, or names and not objects; or a mind that can reason inductively and not deductively, and *vice versa;* or one that reaches all truths by intuition instead of reasoning. All this can be done, but to create new powers or lines of activity is beyond the power of the imagination.

II. SPHERE OF THE IMAGINATION.—Having seen the limits of the imagination, we proceed to consider the sphere of its operations, or to inquire what is its sphere within these limits. In general, we remark that its sphere embraces the entire range of mental activity. This subject will be made clear by the following details.

Material Existences.—The imagination deals especially with material existences. The objects of the physical world are the materials with which it works, and out of which it fashions many of its products. These objects of sense are moulded into every conceivable form by the plastic power of this faculty. The manner in which it operates with this material will be noticed.

Vary the Size.—The imagination can vary the size of objects at its will. We can conceive of objects small or large without respect to the limits of reality. Thus we can conceive of a mouse as large as an elephant, or an elephant as small as a mouse, a bird as large as a whale, or a whale as small as a minnow, etc. It can create horses small enough for the tiniest fairy to ride, or swallows large enough to carry a family across the Atlantic. An oak-tree may be made to grow under a glass thimble, having acorns no larger than pinheads, or a bean-stalk may be led up beyond the clouds into a fairy-land of fierce ogres and golden-egged hens.

Vary the Position.—The imagination can vary the position of objects at pleasure. In nature material objects sustain certain natural relations to one another. Thus mountains hold certain relations to valleys, woods to meadows, rivers to lowlands, etc.; but the imagination is not restricted to any such arrangements. It can put a mountain in the centre of a valley, slope a prairie on a hillside, plant a garden in a desert, and combine trees, rocks, fountains, streamlets, etc., in a manner never seen in nature. It can change the natural position of the parts of organic beings, putting the nose at the back of the head, the eyes at the elbows, the ears at the knees, etc.

Vary the Form.—The imagination can vary the forms of objects at its pleasure. It can modify the shape of trees, animals, flowers, clouds, etc., producing forms more beautiful or grotesque than nature affords. Thus it can make a willow as straight as a pine; or give to a spruce-tree branches as spreading as those of an oak. It can create a rose with triangular or elliptical petals, make crows with graceful forms and voices like a nightingale's, form cows as light-footed as gazelles, and conceive of horses as ugly and awkward as an elephant. The forms of objects are as flexible in the hands of imagination, as clay in the hands of the potter.

Vary the Color.—The imagination can vary the color of objects at its pleasure. We can imagine a green sky, blue fields, red foliage on the trees, white grass in the meadows, or black snow on the hill-sides. We can touch the cheek with the most delicate pink or the healthy glow of the rose, make the eye as dark as midnight or give it a heavenly blue, paint the evening sky with golden colors and robe the summer landscape with all the splendors of autumn.

Idealize Objects.—The imagination can idealize nature or conceive of it under forms more perfect or beautiful than those in which it appears to us. Thus, we can picture an ideal horse more symmetrical than any we have ever seen, or conceive of an ideal of female loveliness more perfect than any we have ever met. The ideals of grace which the sculptor's hand embodies in marble, are superior to anything nature has ever presented to him. The artist does not, as was said of the Grecian painter, assemble all the most celebrated beauties that he might borrow a charm from each, and combine them into a perfect figure; but from the models he sees in nature he forms an ideal of beauty which transcends anything found in nature. Nature seems to be aiming at an ideal of beauty which she never reaches; the imagination of the artist mounts up to this ideal and thus, as we say, idealizes the realities of nature. The Apollo Belvidere, the Venus de Medici, the Madonnas of Raphael, are all superior to anything that the artists ever saw; though they may have been suggested by persons that the artists had seen.

Create New Objects.—The imagination can create new objects in space different from anything we have ever seen. We can imagine new animals, new plants, new strains of music, new figures of rhetoric, etc. Cuvier's imagination, aided by his judgment, created a new animal from a single fossil bone. The geologist has never seen the pterodactyl, and yet he gives us a picture of this wonderful monster. So we might conceive of a new plant, a new flower, or a new species of tree, differing from those we know quite as much as those known differ from one another.

Seen in the Arts.—This creative power of imagination is especially noticeable in the arts. Every great work of art is, to a certain extent, a creation. The sweet melodies of Mozart and the wonderful harmonies of Beethoven never were heard in nature; they were born in the imagination of these great musicians. The characters of Shakspeare came from the brain of this "myriad-minded" genius without a type in nature; and they stand out as real as if they were actual characters of history. The "Conception" of Murillo and the "Transfiguration" of Raphael are neither a copy nor an idealization of the actual; they are the creations of a heaven-born genius.

Ideals of Form.—The imagination can deal with the elements of space independently of material objects. We can conceive of every variety of form, not filled with matter, but as forms of pure space. All the geometrical elements may be thus conceived. The ideal line, surface, or volume, is not a real material thing. These elements can be combined by the imagination, in a countless variety of forms, not as imitations of or copies of anything seen in nature, but by the mind's own power of original conception. Thus we may have circles, ellipses, cycloids, spirals, spheres, spheroids, etc., *ad infinitum.*

Ideal Events.—The imagination also deals with events as occurring in time, and modifies them at its pleasure. It can picture actual events as they were supposed to occur, rearrange them for dramatic effect, or sweep them away altogether, and substitute for them events of its own creation. It can stand with the Almighty when "in the beginning" he spake light into being, listen to the converse of Adam and Eve when they walked in primeval innocence, go with Moses up Sinai's height to receive the tables of the law, bow with the wise men at the shrine of the holy babe of Bethlehem, or stand by the cross, thrilled with compassion by the sublime words, "It is finished." It can draw the veil of the future, and paint glowing pictures of the glory of the republic, weep at its decadence and the downfall of liberty, follow loved ones to the darkness of the tomb and even into the land of silence, catch glimpses of the celestial beauty of the New Jerusalem, and join in the chorus of the redeemed as they surround the throne of Jehovah.

Ideals of Mental Products.—The imagination can deal also with spiritual existences as well as material ones. It can conceive not only of the products of the senses, but of the action and products of all the faculties of the mind. Thus we can conceive of a judgment, a process of reasoning, an axiom of mathematics, a truth of science, etc. We may not be able to define just how the imagination operates with these abstractions, but that it does so is a fact that must be admitted. So also we can conceive of the products of the sensibilities. I can imagine joy and grief, affection and hatred, melancholy and cheerfulness, ambition and pride. I can imagine my heart bounding with joy or cast down with sorrow, thrilling with some beautiful strain of music, or elevated and awed by some grand scene of nature. So also I can imagine an act of the will, a choice between motives, the executive volition, and the act resulting from it.

Ideals of Character.—The imagination is especially interested in creating and embodying the moral and social attributes of the soul which constitute character. Here we find its highest sphere of activity, and in this sphere it has attained its highest achievements. It is in this that the great dramatic and epic writers have been especially distinguished. Homer and Virgil delight us with their poetical images, their moral sentiments, and descriptions of natural scenery; but it is in their characterizations that they call forth the highest tributes of our hearts and judgments. Here lies the power of the great novelists,—Dickens, Thackeray, Scott, and others. It is Milton's Satan and Goethe's Mephistopheles that render their works immortal. It is in the creation of character that Shakspeare stands so pre-eminently above all other writers; and these creations move before us with all the reality of the characters of history. His Hamlet, Macbeth, and Othello, are as real to us as Cæsar, Richard III. or Henry VIII; and we almost forget that Ariel, Caliban, and Portia are mere creations of the poet's brain.

III. OTHER VIEWS OF THE IMAGINATION.

Writers seem to differ more in their views of the nature and functions of the imagination than of any other faculty. It will be interesting and instructive to notice some of these views.

Hamilton's View.—Sir William Hamilton regards the imagination as a complex power, the basis of which is representation. He defines the Representative faculty as "the power the mind has of holding up vividly before itself the thoughts which by the act of representation, it has recalled into consciousness." The term Imagination, he adds, which denotes most nearly the representative process, does so, "not without an admixture of other processes." The imagination is thus not a simple faculty; it consists of the "representative power *plus* the process to which I would give the name *comparison*." He objects to the terms Productive and Reproductive Imagination, and claims that the "imagination creates nothing, that is, produces nothing new." He says that there are three principal orders in which the imagination represents ideas: 1. The natural order; 2. The logical order; 3. The poetical order. The previous discussion will enable the student to point out the errors of this view.

Brown's View.—Dr. Brown resolves the imagination into simple suggestion, accompanied with desire and judgment. We think of a mountain, we think of gold, and unite these two ideas into the complex conception of a mountain of gold. This may be purely spontaneous; or it may be the result of desire, the judgment deciding what we shall unite; but in both cases the process is essentially the same. Dr. Brown says "we may term this state or series of states Imagination or Fancy, and the term may be convenient for brevity; but we must not forget that it is still the name of a state that is complex and not a distinct faculty of the mind." This is really a denial of the faculty of imagination altogether, and an application of the term to a complex process arising from the combined operation of several different faculties.

Active and Passive.—Dr. Wayland distinguishes between what he calls Active and Passive Imagination. "We have the power to originate images and pictures for ourselves, and we have the power to form them as they are presented in language. The former may be called Active and the latter Passive Imagination." The active, he holds, always includes the passive, but the passive does not include the active, since we often see persons who "can enjoy the products of the imagination who cannot create them."

This difference in imaginative power, though admitted, is a difference of degree and not of kind. It is not that one person has a different imagination from another; but that one has more imagination than another. Such a difference is not confined to the faculty of the imagination, but is common to all the faculties. A person may be able to follow a complicated demonstration who might not have been able to originate it; but it does not follow on this account that he has a different kind of reasoning faculty from the one who produced it.

A Combining Power.—It has been held by a large number of writers that the imagination is merely the power of combination; that it does not include a creative element. It is said that all the elements which enter into a product of the imagination existed previously, and that all that the imagination does is to unite them into one whole. Thus a painting is a mere combination of forms and colors, an oratorio of sounds, an epic poem of words or ideas previously existing in the mind. The elements of a poem like *Paradise Lost*—its streams, flowers, rivers, angels, and deities,—were all in the mind of the poet before he began to write, and all that the imagination did was to combine them into one harmonious whole.

Objection to this View.—This view of imagination, which is very common, is not only inadequate but incorrect. Its error is the greater, not that it states what is entirely untrue, but that it fails to state the whole truth and the greater truth. Every work of art is in a sense a combination, just as every process of reasoning is a combination. We unite sounds in music, words in a poem, colors in a painting, etc.; but do sounds, and words, and colors, make these productions works of art? Every one can unite these elements; but not every one can be a poet, painter, or musician. It is the manner in which we unite them that gives a creation of beauty; and this power of ideal conception which uses these dead elements to express its living ideals, is the work of the imagination. It is the beautiful image of the poet which he uses words to describe that is the work of the imagination, and not the mere combination of words. It is the ideal landscape that is the work of the imagination, and not the mere combination of colors on the canvas. The view is false in that it lifts up into prominence a merely incidental circumstance, and forgets or ignores the essential element.

Imagination Creative.—The imagination, as previously stated, is a creative as well as a combining power. It is not a mere copyist of nature; it can create forms of excellence and beauty which transcend anything found in nature. The eye has never seen a perfect circle, the hand cannot construct one, but the imagination can conceive it. The most delicate tracery of art cannot make a straight line; but there is in the mind a conception of one that is perfectly straight. The artist may have seen a face or form of rare beauty; but there is in his soul an ideal beauty of form and feature far transcending anything he ever beheld. Any one can take different strains which he has heard and unite them into a tune that may be new as a whole; but the imagination of genius can give us melodies and harmonies that both in wholes and in parts have never been heard before.

A Plastic Power.—The imagination can combine objects of sense into new forms, but it can do more than this. The objects of sense are, in most cases, merely the materials with which it works. The imagination is a plastic power, moulding the things of sense into new forms to express its ideals; and it is these ideals that constitute the real products of the imagination. The objects of the material world are to it like clay in the hands of the potter; it shapes them into forms according to its own ideals of grace and beauty.

Creates the Fine Arts.—The creative power of the imagination is especially seen in the fine arts. In the imagination of the poet arise visions of loveliness such as no mortal eye hath seen, and it bodies them forth in the living words of the tender sonnet, the stirring drama, or the sublime epic. The imagination of the sculptor sees forms of beauty sleeping in a cold block of marble, and with hammer and chisel he cuts away the rubbish which imprisons his ideal, and there stands before us a form of loveliness which commands the admiration of the world. There come floating through the mind of the musician strains of surpassing beauty, as if echoes from the choirs of the celestial world, and they are revealed and preserved in the immortal melodies and harmonies of a Mozart or Beethoven. He who sees no more than a mere combination in these creations of the imagination, misses the essential element and elevates into significance that which is merely incidental.

CHAPTER II.

THE CULTURE OF THE IMAGINATION.

HAVING discussed the nature of the imagination, we now proceed to consider the method of developing this power. In order to impress the mind with the importance of this culture, we shall first speak of the value of the imagination and then of the methods of cultivating it.

I. VALUE OF THE IMAGINATION.—The imagination is of great value to us in every department of life. It contributes largely to the happiness of man, and is the source of some of his most important achievements. To it literature and the fine arts owe their origin, and even science and philosophy are largely indebted to this power. Indeed, no faculty is capable of greater intellectual achievements or is the source of more exquisite and refined enjoyments. Some of the advantages of this faculty will be briefly noticed.

Of General Value.—The imagination is of general service to man in every department of life. In the beautiful language of Dr. Haven, "It gives vividness to our conceptions, it raises the tone of our entire mental activity, it adds force to our reasoning, casts the light of fancy over the sombre plodding steps of judgment, gilds the recollections of the past and the anticipations of the future with a coloring not their own. It lights up the whole horizon of thought, as the sunrise flashes along the mountain tops and lights up the world. It would be but a dreary world without this light."

Value to Thought.—The imagination is of great service to the thinker, to whom it is generally supposed to be of the least value. In mathematics, it gives sensible forms to abstract truth, enabling us to hold before our minds the diagram as a visible representation of the quantity upon which we reason. The inventor puts his machine together in imagination before his idea is realized in wood and iron. The general fights his battles on the plains of imagination before he marshals his regiments for the real conflict. The astronomer could hardly pursue his investigations among the stars, did not imagination give him a picture of the celestial phenomena.

To Inductive Thought.—Imagination is especially useful in inductive thought. It aids the mind in rising from the facts to the cause which produces or the law which controls them. We see the facts, but the law stands above them; and Imagination, taking Thought by the hand, runs up the ladder of facts and finds the law shining in the overarching sphere of the ideal above. The cause or law often begins in a mere hypothesis; and these hypotheses are largely due to the imagination. They arise by what Laplace calls "a great guess," or what Plato so beautifully designates as "a sacred suspicion of truth." They are the results, as Thomson says, of "an active imagination supplied with materials by a clear understanding carefully developed, that gives the power of penetrating nature before the evidence is unfolded." "The torch of imagination," says Müller, "is as necessary for him who searches for truth as the lamp of study. Kepler held both and more than this; he had the star of faith to guide him in all things from darkness to light."

To the Poet.—Imagination is the soul of poetry. A poem is filled with ideal conceptions. To the poetic mind, the forms of nature become symbols of thought and feeling; and insensate matter is transformed into living objects by the touch of the poet's genius. The stars become "the forget-me-nots of the angels," "the morn in russet mantle clad walks o'er the dew of yon high eastern hill," the darkness falls from the wings of passing night, and the moonlight falls asleep upon a bank of flowers. The imagination of the epic and dramatic poet becomes peopled with new characters and incidents. Lucifer, the son of the morning, rebels against God; Hamlet dreams away his melancholy life; Titania comes out of fairy-land with her sportive tricks; Portia speaks her golden words concerning mercy; and the May Queen touches the heart with tender feelings by her early death.

To the Artist.—Imagination is also the source of the fine arts. By it the sculptor conceives forms of beauty which, when realized in marble, become the treasures of the world. The Venus of the Tribune, the Apollo Belvidere, the Faun of Praxiteles, the Venus de Milo, will cause the heart to thrill with admiration for ages to come. By it the painter forms his ideals of beauty which even the canvas can only faintly express; and yet, when thus realized, they fill the soul with celestial visions of loveliness. The frescos of the Vatican, the Transfiguration of Raphael, the Immaculate Conception of Murillo, reveal the wonderful creations of the artist's imagination. So too, from the depths of the musician's imagination come melodies and harmonies that seem to echo with the strains of the angelic world, and awaken in the soul of the listener emotions of the infinite.

To the Orator.—Imagination is the soul of oratory. By it the orator presents his thoughts in concrete form, visible to the eye as well as audible to the ear. By its aid he reaches the secret springs of feeling, commands those skillful touches that thrill the soul as by magic, and plays upon the minds and hearts of his audience like a great musician sweeping his harp-strings, moving them to laughter or tears, to indignation or enthusiasm, at his will. It gives the orator an ideal of what his argument should be, toward which he ever aspires if he attains to true eloquence, such as has rendered the names of Demosthenes, Burke, and Webster immortal.

To Other Minds.—This faculty is of benefit not merely to the poet, the artist, and the orator, but to every mind. It gives a light and beauty to the incidents of life that might otherwise be dry, sombre, and repulsive. It gilds the present with an ideal beauty, paints the future with hues of joy and brightness, hangs the star of hope in the sky of coming manhood, and enables us to look beyond the darkness of the grave, and catch glimpses of the bliss and beauty of the life to come. Life would often be dull and dreary, and heaven little more than an abstraction, were it not for the bright visions of joy this faculty reveals to us.

Value to Character.—Imagination is of especial value in the formation and development of character. By it we obtain new ideals of life,—ideals of what we hope and wish to be,—and these ideals are the types to which we endeavor to mould ourselves. If the type is pure and noble, we grow purer and nobler as we endeavor to realize it; if it is low and ignoble, we grow more and more debased as we follow it. Life is thus artistic; we are all artists, the artists of character, ever trying to realize our ideals of that which is purer and better and nobler than ourselves. We carve, not in wood or marble, but in mind and heart; we mould, not in clay or plaster, but in plastic and immortal soul; we shape, not the dead, cold marble which will crumble to dust, but the warm, active spirit that will survive the wreck of matter and the crush of worlds. We are largely what our ideals of character make us.

Of Great Value.—Dr. Haven, in discussing this subject, has a paragraph so full of beautiful thought that it is worthy of being committed to memory. "Especially is it of value in forming and holding before the mind an ideal of excellence in whatever we pursue, a standard of attainment, practicable and desirable, but loftier far than anything we have yet reached. To present such an ideal is the work of the imagination, which looks not upon the actual, but the possible, and conceives that which is more perfect than the human eye hath seen, or the human hand wrought. No man ever yet attained excellence in any art or profession, who had not floating before his mind, by day and by night, such an ideal and vision of what he might and ought to be and to do. It hovers before him, and hangs over him, like the bow of promise and of hope, advancing with his progress, ever rising as he rises, and moving onward as he moves; he will never reach it, but without it he would never be what he is."

II. METHODS OF CULTIVATING THE IMAGINATION.—Having discussed the importance of the culture of the imagination, we now proceed to present a few thoughts on the methods by which this culture may be given. The imagination may receive culture in at least four ways: first, by exercise; second, by the study of nature; third, by the study of the fine arts; and fourth, by the creation of imaginary productions.

1. By Exercise.—The general law of cultivating the imagination is that of exercise. Every activity of the mind is developed by being brought into activity; and the imagination is cultivated in accordance with this general law. This exercise is often given involuntarily, as in the case of those who become distinguished in literature, influenced by natural taste or by some early circumstances. Such exercise can also be given intentionally and in accordance with a well-matured system; and it is suggested that it be so given. Care should be taken that this exercise be judicious, and subject to good taste and the authority of reason.

Exercise Judicious.—The exercise of the imagination of the young should be judicious in kind and quantity. The dull and torpid imagination should be stimulated; the over-active imagination should be curbed and directed. The boy with sluggish fancy may be led to read such books as will awaken his mind to imaginative thought; while care should be taken that the dreamy lad does not confine his reading to works of fiction and thus over-stimulate his naturally active imagination. Care should also be taken to prevent day-dreaming and the cherishing of visionary fancies that lead to discontent and a distaste for the practical affairs of every-day life. Visions of high attainments in after life may be encouraged and incited, and the examples of eminent men may be held up as ideals for imitation and emulation. The books that young people read should be selected with care, so that the ideals early implanted in the mind may be of a noble and exalted character.

Subject to Taste.—The exercise of the imagination should be subject to good taste. The faculty should not be permitted to run riot among the productions of literature and art, and become warped by false or unworthy models. Only the best and most refined works of the imagination should be placed before the minds of the young. The great masters of art and literature, whose productions are in accordance with the cultivated taste of mankind, should be the models after which we should endeavor to mould the youthful imagination. We should aim to cultivate a refined and elevated taste in the young, that will give beauty and excellence to their own imaginings, and enable them to judge of and appreciate the creations of the great writers and artists.

Subject to Reason.—The exercise of the imagination should be subject to the guidance of the reason. In the human soul there is a power which comprehends the beautiful and gives us our ideals of beauty. These ideals are independent of those presented in art, and superior to those perceived in nature. They are the products of the higher reason, and are the soul's highest guide to artistic conception and expression. Towards these high ideals the imagination should work, endeavoring to conform its products to the types of excellence that the reason affords. The creations of art thus become inspired with an inner life and a living soul, and rise to a plane of perfection they could not otherwise reach.

2. By the Study of Nature.—In order to afford culture to the imagination, we should give it exercise among the varied objects of the natural world. Here we shall find a wealth of material to excite and direct the activity of this faculty. Nature seems to have slept like a dream of beauty in the imagination of the great Artificer; God put forth his creative hand, and the thoughts of his soul became the facts of the world. These works of the divine artist reveal his beautiful imaginings. The domain of nature is thus boundless in her wealth of artistic expression; her beauties of form, color, and sound, are infinite in variety. This means of culture is of especial value, since every one has ready access to it. Nature's picture-galleries are always open to us;

her objects of beauty invite our study without money and without price. Her halls of statues are never under lock and key; they can be visited at any time without our being required to obtain permission of owner or keeper.

Ideals of Beauty.—The study of nature gives us ideals of beauty. The objects of the natural world are an embodiment of beautiful ideals,—of ideals formed in the mind of the Creator before he put forth his creative hand. These ideals were the patterns or types after which nature was moulded; and the objects of nature thus furnish our minds with forms of loveliness fashioned after divine ideals. We do not always find perfection in nature; the objects of the natural world are not always the realization of the perfection of the divine ideals; but they are at least typical of the perfect beauty of the conceptions of the divine Artist, and suggest to us ideals higher than those which they embody.

These Become Types.—These ideals of nature linger in the mind, and become types of our own ideal conceptions. The landscapes of nature are the patterns of our own ideal landscapes; the colors of the autumn woods train to the perception of richness of coloring in art; the shady forest, the sloping meadow, the rippling streamlet, the heaving ocean, all are the models of the ideal conceptions of the artist. The memory may thus become a grand picture-gallery, with its walls hung with pictures of nature which are the models of our own ideal conceptions.

Such Ideals Stimulate.—These beautiful pictures of nature not only serve as types for our ideal conceptions, but they stimulate the imagination to activity. The perception of beauty excites the imagination to the creation of beauty. The relation between a picture of memory and a picture of the imagination is so intimate that the former excites the imagination to activity to create the latter. It is thus that varied scenery tends to give an imaginative cast to the mind. A mind developed amid the sameness of a prairie landscape, would not naturally incline to imaginative production. Rocks, hills, mountains, woods, sea-shore, etc., stimulate the mind to the conception of forms of grace and sublimity, and train to artistic preferences and longings.

Example of Artists.—The truth of these statements is illustrated by the example of artists. They are especially susceptible to the beauty of the works of nature; and they make them the basis of their own productions. The painter travels and sketches, and fills his portfolio with choice bits of natural scenery. The sculptor never misses a fine face or graceful pose, but is ever furnishing his memory with forms of grace and loveliness. The true poet is in deep sympathy with nature, and catches inspiration from her varied forms and her exquisite combinations. Bryant's *Thanatopsis*, Shelley's *Skylark*, Shakespeare's *Tempest* and *Twelfth Night*, all attest the influence of nature on the imagination.

Things to Observe.—Nature is full of objects which incite the mind to activity and become our ideals of beautiful imaginings. We should fill our memories with pictures of her beauties—her flowers, trees, streamlets, cascades, lakes and rivers, autumn woods, meadows of spring time, mountain scenery, sunrises and sunsets, starry nights, moonlight evenings, the arching sky, the fleecy clouds, the ocean, a thunderstorm, etc. Each one of these objects, with illustrations from the poets, would furnish the material for an essay, in which it could be shown how nature gives activity and culture to the imagination.

Spiritualize Nature.—We should not only observe the objects and facts of nature, but endeavor to spiritualize them; we should endeavor to trace the analogies between the natural and the spiritual world. The objects of the material world are but the thoughts of the Creator, and they reveal the beauty and imaginings of the divine mind. Every form of beauty is thus a type of some ideal; and it is our privilege to trace these analogies, and seek the thought of which the fact is the symbol. We can thus idealize nature, using the concrete object to illustrate the abstract thought. The poet's mind transmutes form and color into thought and feeling, and sees the "facts of the world but as the thoughts of the Creator." The lowly daisy becomes the symbol of modesty; the snow-white lily, the type of purity; the strong old oak, the emblem of majesty and grandeur; and the starry sky the floor of heaven "inlaid with patines of pure gold."

3. By the Study of Art.—We may also cultivate the imagination by the study of the fine arts. Works of art as the products of the imagination, give exercise to the imagination, and thus train it to a healthful activity. That which came from the mind of the creator gives kindred exercise to the mind of the beholder. Frequent exercise in this way begets a habit of imaginative activity, that enables one to create ideal conceptions of his own.

Afford Ideals.—These works of art become ideals for our own imaginations. They are the types of beauty towards which we shape our own creations of beauty. The masterpieces of Greek art will be models in sculpture as long as the world endures. The paintings of Raphael and the frescos of Michael Angelo will shape the taste and genius of artists for centuries to come. Every student of the fine arts endeavors to fill his mind with the masterpieces of the great artists; and they lift his soul up to the appreciation of the divine element which makes them "a thing of beauty" and "a joy forever."

Afford Inspiration.—These masterpieces of art not only furnish ideals, but they stimulate the imagination to activity. We catch inspiration from the contemplation of the productions of inspired genius; we light the torch of our own imagination by a contact with the bright flame that burns in other minds; we derive new vigor of conception by a communion with those rare spirits that have embodied themselves in their productions. Such souls lift us up into a higher realm—the realm of a supernal beauty; they feed the mind, as it were, with the nectar of the gods, and stimulate it to diviner activities and attainments. Homer has made great poets as well as produced immortal epics; and Shakespeare will kindle the flame of genius in poetic minds as long as the world endures.

Prose Writings.—The imagination can be cultivated by the study of imaginative prose writings. The fairy tales of the nursery direct the young mind in its early fancyings. Fables and allegories continue this work, as the mind becomes more thoughtful and the taste more mature. Then come novels and romances, with their incidents and developments of character, introducing the mind into an ideal world, as real, for the time, as the actual world about us. Scott and Dickens and Thackeray give inspiration and direction to the power of ideal creation in literature; the imaginative prose of Ruskin, Irving, and Hawthorne, also trains to beauty of thought and artistic expression; and the imaginative parts of orations like Webster's "When my eyes shall be turned for the last time," etc., committed to memory and frequently recited, will cultivate the taste for those flights of eloquence which touch the heart of the world as with a spell of magic.

Poetical Writings.—Poetical writings are especially adapted to give culture to this faculty, for poetry is the embodiment of the ideals of the imagination. The scenes which are described awaken the reader's imagination into activity to picture them. The imaginary incidents, if properly conceived, may be made to move before the mind like the pictures of a panorama. The figures of rhetoric, studied and fixed in the memory, incite our own minds to activity, and become types for our own creations. The beautiful simile or metaphor, as "Behold how far that little candle throws his beams; So shines a good deed in a naughty world," nestles in the memory and begets a similar production when we write or speak. The striking personification, as "Night's candles are burnt out, and jocund day stands tiptoe on the misty mountain top," will teach us to give life and beauty to our abstract thoughts, and make our speech striking and impressive.

4. By Creating Ideal Productions.—The imagination is also to be cultivated by creating ideals for ourselves. This is the highest activity of the imagination, and that which produces the best results, both in culture and art. It is this culture which gives us our poets, painters, sculptors, and composers of music. It is such training that fills our halls and libraries with the pro ducts of the fine arts, and gives to genius the crown of immortality. Much of this excellence is attained only by the native gift of genius, but much also can be accomplished by cultivation. Though the old adage tells us that "poets are born, not made," yet a high degree of artistic power might be attained by many who now seem to be entirely deficient in this respect.

In Literature.—The student should be required to create imaginative literary productions. They may begin with the relation of imaginary incidents, and proceed to the creation of fairy tales, allegories, novelettes, etc. They should also learn the nature of poetical figures, the simile, metaphor, etc., and practice creating original ones. Every young person should learn the art of verse-making, as it trains the ear and taste to appreciate poetry as well as gives culture to the power of ideal thought and expression. Many of the eminent prose writers trained their literary taste by the practice of poetical composition. It is in literature that the student will find the best field for the culture of the imagination, as it is open to every one who can read and use language.

In Other Arts.—Some practice in imaginative creation may be had also in several of the other arts. Students of music should be encouraged to compose melodies and harmonies, as well as to execute them. There could also be given some exercises in conceiving ideal landscapes and describing them in words. If there is the power of executing pictures with the pencil or brush, the culture will be so much the better. The conceiving of forms of grace in the sculptor's art may also give exercise to this power; though it needs the clay or plaster to mould these ideals in order to be of much value in imaginative culture.

In School Studies.—A few of the school studies may be used to give culture to the imagination, especially geography and history. In geography the student may be led to picture before his mind the flowing river, the heaving ocean, the wide-extended prairie with its waving flowers, the broad desert with its caravans of horses and camels, the Esquimaux of the icy North with their huts of snow, the inhabitants of the tropics with their peculiarities of dress and religion, etc. So in history the events can be made to pass before the mind like the scenes of a panorama—the expeditions of the discoverers, the landing of the early settlers, the marching of armies, the movements of the forces on the field of battle, etc. When taught in this manner, and this is the way in which these studies should be taught, they afford excellent culture to the imagination.

Concluding Remark.—In conclusion, we urge upon teachers and educators the importance of such culture. Let the teacher call the attention of the pupil to the beauty and grandeur of nature, fill his memory with fine quotations of poetry, have him commit and recite the eloquent passages in the great orators, visit picture galleries and halls of statuary, and endeavor to form in his own mind ideals of beauty and to express them in language. Such culture will refine the taste, elevate the character, give a source of exquisite enjoyment in after life, and do much for the development of that highest object of education—a pure, refined, and noble manhood and womanhood.

THE UNDERSTANDING.

I. Abstraction.

II. Conception.

III. Judgment.

IV. Reasoning.

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THE UNDERSTANDING.

CHAPTER I.

THE NATURE OF THE UNDERSTANDING.

THE UNDERSTANDING is that faculty of the mind by which we compare objects of thought and derive abstract and general ideas and truths. It is the elaborative power of the mind; it takes the materials furnished by the other faculties and works them up into new products. It is the thinking power of the mind; the faculty which gives us what has been called *thought-knowledge,* in distinction from *sense-knowledge.* It may be regarded as the mental architect among the faculties; it transforms the material furnished by the senses and the reason, into new products, and thus builds up the temples of science and philosophy.

Different Names.—This faculty has been variously named by writers on mental science. Locke called it the Reflective Power, or Reflection, because the mind seems to bend in upon itself and examine the materials in the mind and operate upon them. Kant called it the Understanding, in which he was followed by Coleridge and others. Sir William Hamilton calls it the Elaborative Power; while Dr. Porter uses the simple name, Thought or Thought Power. It seems appropriate to designate the faculty by some technical name; and the term *Understanding* is that towards which the best writers on philosophy seem to be inclining.

Its Products.—The products of the Understanding are twofold, *ideas* and *thoughts.* An *idea,* as already explained, is a mental product which when expressed in words does not give a proposition; a *thought* is a mental product which embraces the relation of two or more ideas. The ideas of the understanding are of two general classes; *abstract ideas* and *general ideas.* The thoughts are also of two general classes; those pertaining to *contingent truth* and those pertaining to *necessary truth.* In contingent truth we have *facts,* or immediate judgments, and *general truths,* including *laws* and *causes,* derived from particular facts; in necessary truth we have *axioms,* or self-evident truths, and the truths derived from them by reasoning, called *theorems.*

Forms of Activity.—The understanding embraces four distinct forms of activity, giving rise to several distinct classes of products. These are *Abstraction, Generalization, Judgment,* and *Reasoning.* Abstraction is the power of forming *abstract ideas.* Generalization or Conception is the power of forming *general ideas.* Judgment is the power of comparing one object directly with another; as, *a man is an animal.* Reasoning is the process of comparing two objects of thought through their relation to a third; as, A equals B, but B equals C, hence A equals C. It infers general truths from particulars by *Induction;* and particular truths from generals by *Deduction.*

Analysis and Synthesis.—These operations of the understanding involve two elements; *synthesis* and *analysis.* These two elements run through every process and product of the understanding. Some of the processes are principally or entirely analytic; some are principally or entirely synthetic; while in others the two elements are combined. Thus Abstraction is mainly analytic; Generalization is mainly synthetic; Judgment is either analytic or synthetic; while Reasoning is either a synthesis of particulars in Induction, or an evolution of the particular from the general in Deduction.

Comparison the Basis.—The one word which expresses the operation of the Understanding more nearly than any other is *Comparison.* Comparison enters prominently into every operation; and in judgment and reasoning it is the essential element. Abstraction seems to be purely analytic; but there must be a comparison of the different qualities, or of the object and its quality, to distinguish between them, in order that any quality or property may be drawn from the object. In forming a general notion, we compare the common attributes of objects in order to see that they are common, before we unite them into a general concept. The very essence of a judgment is a comparison of the two related ideas; and in reasoning the conclusion is derived by comparing the premises. It is thus seen that the fundamental principle of the operations of the understanding is that of comparison.

Relation of Elements.—The relation of Comparison to Analysis and Synthesis may be readily understood. Comparison is a process of thought,—it is a distinct form of mental activity; Analysis and Synthesis are not distinct forms of mental activity, but elements that enter into these various activities. The general form of the thought-process is comparison; analysis and synthesis are modes of its operation. Comparison is the thought-process; analysis and synthesis are the mechanical processes. Comparison is the queen, presiding over all the various activities; analysis and synthesis are her handmaidens, who obey her orders and aid her in her operations.

Having presented this general view of the Understanding, we shall now proceed to discuss the several operations,—Abstraction, Generalization, Judgment, and Reasoning.

CHAPTER II.

THE NATURE OF ABSTRACTION.

ABSTRACTION is the power of forming abstract ideas. It is the power of drawing a quality away from an object and making of it a distinct object of thought. Thus the drawing away of some quality of a flower, as its color or fragrance, and thinking of this quality independently of the flower in which it was perceived, is an act of abstraction. The term *abstraction* is derived from *ab*, from, and *traho*, I draw, and means literally a drawing from.

Illustration of Abstraction.—The process of abstraction may be made clear by an illustration. Suppose I have some object on my table, as a red rose. I may fix my attention upon the color of this rose, in distinction from its form or fragrance or any other quality. This is not an act of abstraction; it is merely analytic perception; I have not drawn away a quality or formed an abstract notion. But suppose, now, I draw this quality of color away from the rose to which it belongs, allowing the object to fade away from my mind, and think only of this color *red*, without regard to any object; I shall then have a new product of thought, which is called an abstract notion or idea. I have drawn away, abstracted, a quality from the substance in which it was found; and it stands in my mind as a distinct idea. The power of forming such ideas is abstraction; and the process itself is also called abstraction.

Positive and Negative.—The process of abstraction may be regarded as either a positive or a negative operation. Thus I may positively, by a distinct act of the mind, withdraw one quality of an object from all the other qualities with which it is associated. This is abstraction in its positive, or active aspect. I may also fix my attention upon some one quality of an object, and allow the other qualities to pass away from my thoughts or drop out of my mind. This is abstraction in its negative or passive aspect. In both cases we have a quality considered apart from its object, and thus an abstract notion. The active aspect is the one under which the process should be generally viewed, as the mind more frequently operates in that way than in the other.

The Power Questioned.—It may be questioned whether the mind has this power of considering a quality distinct from the object in which it is perceived. A little reflection, however, will make it clear that it does possess this power. If we admit that we have general conceptions, these conceptions must be made up of common attributes; and these attributes are considered apart from the objects in which they were perceived. If we could not abstract, we could not generalize; for abstraction is a condition of generalization. Besides, we remember that all that we perceive of an object is its qualities; and the process of abstraction consists in fixing the attention on one quality while the other qualities drop out of the mind. When these pass away, the object passes with them, and we have but a single quality left as an object of thought. All conception of qualities by themselves, separated from an object, involves an operation of abstraction.

I. PRODUCTS OF ABSTRACTION.—The products of Abstraction are *abstract ideas*, that is, ideas of qualities in the abstract. Such ideas are called *Abstracts*. Thus my idea of some particular color, of hardness, or softness, or sweetness, is an abstract. Abstract ideas have been wittily called "the ghosts of departed qualities." They may more appropriately be regarded as the spirits of which the objects from which they are derived are the bodies. In other words, they are, figuratively speaking, "the disembodied spirits of material things."

Abstracts are Real.—Abstract ideas are realities. They are not mere figments of the fancy; they are actual thought products. The basis of their existence is the objects from which they were drawn; and they are as real as these objects themselves. Every abstract idea can be realized in some concrete object. Thus the idea of some color, abstracted from a rose, can be realized in the rose; the form of a horse can be realized in the horse, etc. A concrete thing is thus the basis of an abstract idea, and the latter is as real as the former. The abstract idea, however, exists independently of the concrete object; and remains even when the latter passes away. The rose dies, but my idea of its color and fragrance continues.

Ideal Abstracts.—We can also abstract the qualities of an imaginary object as well as a real one. Thus the melancholy of Hamlet may be considered apart from his indecision or his philosophy, and each may be considered apart from our mental picture of the form and appearance of the ideal character. In such cases, the abstract quality is no more real than the ideal object from which it is drawn. In the one case the quality has an actual existence in the object; in the other case it has merely an ideal existence.

Abstracts are Particular.—Pure abstract ideas are individual. My idea of an attribute drawn from some particular object, as some particular shade of red, is evidently particular rather than general. It is that special shade of red or blue which I perceive in the object, and no other. The shape, size, etc., of any particular object are singular notions. This position should be emphasized, because of the prevalence of the opinion that all abstract notions are general, or because of the general tendency to confound the two. Mr. Stewart says, "A person who had never seen but one rose, might yet have been able to consider its *color* apart from its other qualities; and, therefore, there may be such a thing as an idea which is at once abstract and particular."

Abstract General Ideas.—Many of our abstract notions embrace more than is found in any one object, and are, therefore, general. Similar qualities abstracted from different objects tend to commingle, and the abstract idea which was at first particular becomes general. This is true to so large an extent that some writers seem to regard all abstract ideas as the product of generalization. The fact is that the greater part of our abstract ideas are now general, though a very large portion of them must have had their origin as particulars. Such ideas are more than pure abstracts; they are the result of abstraction and generalization.

Relation to Percepts.—The relation of an abstract to a percept is readily seen. A percept is concrete; it is a notion of the object or thing perceived. An abstract is abstract; it is a notion of a quality drawn away from the object in which it was perceived. Thus when I think of a stone, the idea is concrete; but when I think of its weight, size, or hardness, separated from the stone, the idea is abstract. My idea of a man is concrete; but my idea of his learning, wisdom, wealth, etc., is abstract. "If I contemplate God," says Dr. McCosh, "the notion is concrete,—it is God with all his perfections known to me; but if I meditate on his infinity, his justice, or his benevolence, my idea is abstract."

A Further Distinction.—Another distinction is, that a percept can usually be represented as an image; an abstract cannot usually be so represented. We may form a mental picture of color or form, but we can form no mental image of such notions as justice, peace, property, government, religion, etc. The imagination may give us a symbol of some of these abstract ideas,—as a woman with a pair of scales for Justice,—and such products are of great interest and use in poetry, oratory, etc.; but these products are ideals of the fancy and not the thought-products of the understanding.

II. OTHER VIEWS OF ABSTRACTION.—There are two other views of abstraction which have been quite extensively held by writers on mental philosophy. These may be distinguished as the Limited View and the Wider View.

The Limited View.—The term abstraction is often used in a more limited sense than that here given to it. It is by some writers regarded as that act of the mind by which we fix the attention upon one of the several parts, properties, or qualities of an object, to the exclusion of all the others. Thus, I may think of the cover of a book, the handle of a door, the spring of a watch, etc., in distinction from the other parts which make up the complex whole of these objects. This is a very common view of the nature of abstraction. It is the view of Mill and his school of philosophy; and even Sir William Hamilton seems almost to drop into this view when he says, "Attention and abstraction are only the same process viewed in different relations. They are, as it were, the positive and negative poles of the same act." In other places, however, he makes it clear that he does not regard this as real abstraction.

Objection to the View.—It is a question, however, whether this is really abstraction. In its favor it may be said that the mind is drawn away (*ab-traho*) from the several qualities of the object in order to fix it upon the one; and that this is an act of abstraction. In objection, however, it is urged, that there is no new faculty employed beyond perception, and no new product formed. It is merely an act of attention and analysis, and might, with propriety, be called analytic perception. There is no abstract idea formed, for the part considered is still regarded as a part of the object in which it is perceived. In popular language this may be called abstraction; but it seems hardly to be what we mean by it in a philosophic sense. Sir William Hamilton says that in such an act we may indeed be said to *prescind*, but not to *abstract*.

The Wider View.—The term abstraction is sometimes used to denote the entire process of forming abstract general notions, and even of classifying objects according to these conceptions. It seems thus to have been regarded by Stewart, Wayland, Mahan, and others. The terms *abstract* and *general*, as applied to notions, are used by some of these writers as convertible. All abstract notions seem to be regarded by them as general, embracing many particulars.

Objection to this View.—This view would destroy the existence of this faculty altogether, or resolve it into the faculty of generalization; and, as a consequence, it would destroy also the distinction between an abstract and a general idea. The general idea is, in a sense, an abstract notion; but it is more than a pure abstract. It is formed by a synthesis of particular abstracts, and thus involves more than pure abstraction. In forming a general notion, we put together abstracts; and this putting together is a process of synthesis in addition to abstraction. General notions are thus in a sense abstract; but all abstract notions are not general. A pure abstract, as we have previously seen, is individual and particular.

Caution on the Subject.—Care should be taken to distinguish between abstract ideas and general ideas. This distinction seems to have been overlooked by Locke and his followers, although it has been clearly made by others. Stewart says,—"The words Abstraction and Generalization are commonly, but improperly, used as synonymous; and the same inaccuracy is frequently committed in speaking of abstract or general ideas, as if the two expressions were convertible." Hamilton remarks,—"We can rivet our attention on some particular mode of a thing, as its smell, its color, its figure, its size, etc., and abstract it from the others. This may be called Modal Abstraction. The abstraction we have now been considering is performed on individual objects, and is consequently particular. There is nothing necessarily connected with generalization in abstraction; generalization is indeed dependent on abstraction, which it supposes; but abstraction does not involve generalization. I remark this because you will frequently find the terms abstract and general, applied to notions, used as convertible."

CHAPTER III.

NATURE OF GENERALIZATION, OR CONCEPTION.

GENERALIZATION, or CONCEPTION, is the power of forming general ideas. It is the power of grasping the common qualities of objects and uniting them into a single notion comprehending them all. It is thus the power of combining the individual into the general; of uniting the manifold into one; of binding a plurality of common attributes into a single notion.

A General Idea.—A general idea is one that embraces many particulars, and may be applied in general to any one of these particulars. It differs from the particular idea in that the latter relates to only one particular object, while the former may be applied to all the individuals of the class. Thus my idea of *my father* is particular, and applies to only one person; but my idea of *a father* is general, and embraces all persons who bear the relation indicated.

The Term Conception.—The power of forming general ideas is called *Conception.* The term is from *con*, with, and *capio*, I take, and means a taking or binding together. This is the proper term for the name of the faculty. It is the term now almost universally employed by writers on logic; and also by many of our best writers on mental science. The products of conception are called *concepts.* The term Concept is thus the correct and technical name for a general idea.

I. THE PROCESS OF CONCEPTION.—The process of conception or generalization consists of several distinct steps or mental processes. This process by which we form our general ideas we shall now describe and illustrate.

Basis of Conception.—The basis of the process is perception.

The mind begins with the perception of individuals. We learn their properties of color, form, size, etc., by the different senses, and uniting these qualities in the single object we obtain a clear and definite idea of individuals. This act of perception, though necessary to, is not a part of the process of generalization; but rather an essential condition of the process. Attention is called to it here in order to give a clearer view of the process of conception.

Forming the Concept.—As we acquire our ideas of individuals, we begin to compare these objects, or our perception of them. We notice their resemblances and differences, wherein they agree and disagree, are alike and unlike. We then drop out of consideration the points in which they differ, and fixing our attention upon the points in which they are alike, we bind the common attributes together into one general notion embracing them all. This gives us a new mental product, a new idea, which is called a *general idea* or *concept.*

Naming the Concept.—This new idea must be distinguished and preserved by a word. We therefore give it some name, as *man, horse,* etc. "A conception without a name," says Atwater, "is like an unfenced crop, or a volatile odor." Our first names are of individuals, as *mamma, papa,* etc. These are the names of our perceptions, or of particular objects. The most of the names we use in writing or speaking are general in their nature, applying to many objects of a class. The proper nouns of grammar name our perceptions; the common nouns name our general ideas.

The Process Illustrated.—The process may be illustrated by the formation of any general notion, as *horse.* We begin with the idea of particular horses, as the horses of our father and our neighbors; we compare them with each other and with different objects, and notice their similarities and differences. We see that, though they differ in many particulars, they are more like one another than they are like any other objects; so in view of their many resemblances we drop out of consideration their differences, and bind these common attributes into one general notion and call it *horse*. In the same way we form our general notion of *cow, dog, sheep, bird*, etc.

Another Illustration.—The process may be illustrated also in the forming of the general idea of *color*. We begin by observing particular shades of the different colors as seen in different objects. We get one shade of *red* in one object, another shade in another object, etc., and thus obtain several particular shades of red. We do the same with the other colors, blue, green, yellow, etc. We also compare these different shades; we see that, though the various shades of red differ, they are more like one another than they are like the shades of blue or green, etc.; so in view of such similarity, we bind all these shades together into one concept, and thus get our general idea of *red*. In a similar manner, we get our general idea of *blue*, *green*, *yellow*, etc. We then begin to compare these different colors; and though they differ, yet they are more like one another than they are like *stones*, or *stars*, or *trees*, or any other objects; so in view of some common points of resemblance we bind them all together into one general concept, and name it *color*.

Forming Higher Concepts.—We may also combine general notions and rise to higher generalizations. We can generalize from classes, as well as from individuals. Thus, the concept of color is formed by combining the several colors, violet, indigo, blue, green, yellow, orange, and red, each one of which is itself a general idea. This relation, expressed in the form of an equation, gives us, $\textit{color} = \mathrm{V} + \mathrm{I} + \mathrm{B} + \mathrm{G} + \mathrm{Y} + \mathrm{O} + \mathrm{R}$. In the same way, comparing dogs, cows, horses, etc., we get the higher conception *quadruped*; or, in mathematical language, $\textit{quadruped} = \textit{dogs} + \textit{cows} + \textit{horses} + \textit{etc.}$ Thus also, we have $\textit{biped} = \textit{bird} + \textit{man} + \textit{etc.}$; $\textit{animal} = \textit{biped} + \textit{quadruped} + \textit{etc.}$

II. REMARKS ON THE PROCESS.—This description and illustration of the method of forming our general notions will give the student a clear idea of the process. A few remarks upon the subject, however, may serve to make some parts of the process a little more distinct. The process of generalization, as described, will be seen to consist of three distinct steps; *comparison, analysis*, and *synthesis.*

The First Step.—The first step in the process is that of *comparison.* As we acquire our ideas of individual objects, we begin to compare them, or our perceptions of them. This process is an instinctive one; it is a natural habit of the mind manifesting itself in earliest childhood. We are constantly noticing the similarities and differences of objects, and observing agreements or disagreements among them. This is an act of judgment; so that judgment lies at the basis of the process of generalization.

The Second Step.—The second step is that of *analysis.* We separate the similar qualities from those which are dissimilar; and this is a process of analysis. We also draw away the similar attributes from the objects in which they are found, if we have not done so before the comparison and previous analysis. This is a process of abstraction, an analytic process, as already explained. These two steps, comparison and analysis, are preparatory or preliminary steps to the great step which is to follow. Were we to stop here, no general idea would be formed. These two processes of analysis and comparison really provide the materials for the more important step which follows.

The Third Step.—The third step is that of *synthesis.* The mind now takes the materials that have been furnished and fashioned by comparison and analysis, and unites them into one single mental product, giving us the general notion or concept. The mind, as it were, brings together these several attributes into a bunch or package, and then ties a mental string around it, as we would bunch a lot of roses or cigars. This is the final and important step in the process; it is the real process of conception, or the taking together (*con-capio*) into one.

Not Always Formal.—A formal description of generalization regards it as composed of these several distinct steps; but in the actual formation of the concept, these steps are not always kept so distinct as described. It is not always easy to determine which of the first two steps, comparison or analysis, precedes. In many cases, there seems to be a perception of some general likeness or unlikeness before any abstracting takes place; in other cases, the process of abstracting seems to precede comparison. Sometimes, also, we may fix upon some quality which is strikingly characteristic of the class, and group together all the objects possessing this characteristic; as the vertebral column in zoölogy, or the form of the flower in botany. Again, the process seems to proceed in a mixed and confused sort of manner, or, as Hamilton says, from the confused to the clear and definite.

A Synthetic Process.—It is thus seen that generalization, or conception, is a synthetic process. In its final and crowning act, it unites, combines, binds together. Thus special colors are combined into the notion of color in general; particular animals are united into a general idea of animals, etc. Our conceptions are thus seen to embrace wider and wider circles of thought, as we go from particulars to generals, or from the less general to the more general.

An Ascending Process.—Generalization is an ascending process. The broader concept is regarded as higher than the narrower concept; a concept is considered as higher than a percept; a general idea stands above a particular idea. We thus go up from particulars to generals; from percepts to concepts; from lower concepts to higher concepts. Beginning down with particular objects, we rise from them to the general idea of their class. Having formed a number of lower classes, we compare them as we did individuals, and generalize them into higher classes. We perform the same process with these higher classes, and thus proceed until we are at last arrested in the highest class, that of *being*. Having reached the pinnacle of generalization, we may descend the ladder by reversing the process through which we ascend.

III. THE NATURE OF THE CONCEPT.—The products of generalization are general ideas called *concepts*. We have already discussed the method of forming conceptions, and we shall now consider the nature of the concept itself. The subject is one of real importance, as may be seen from the fact that the existence of general notions is denied by some philosophers.

Definition of a Concept.—A concept is a general idea. It is a general notion which has in it all that is common to its own class. It is a general scheme which embraces all the individuals of the class, while it resembles in all respects none of its class. Thus my conception of a quadruped has in it all four-footed animals, but it does not correspond in all respects to any particular animal; my conception of a triangle embraces all triangles, but does not agree in details with any particular triangle. The general conception cannot be made to fit exactly any particular object, but it teems with many particulars. These points may be illustrated with the concepts *horse*, *bird*, *color*, *animal*, etc.

Cannot be Imaged.—A concept cannot be represented by a concrete image. This is evident from its being general rather than particular. If its color or size or shape is fixed by an image, it is no longer general but particular. The concept, however, may be individualized in some object of sense, and is so individualized when we apply it to the different objects of the class which it embraces. Some particular object may be taken as the representative of the class, and this may be in the mind when we use the general term. So also the imagination may form an ideal object to stand as the representative of a class of objects, and this ideal may accompany the use of the general term. These mental products are not, however, to be regarded as concepts; the former is a remembered percept, and the latter is a figment of the imagination.

Relation to Percepts.—The difference between a concept and a percept will be clear from what has been said. A percept is a mental product of a real thing; a concept is a mere idea or notion of the common attributes of things. A percept represents some particular object; a concept is not particular, but general. A percept can be described by particulars; a concept can be described only by generals. The former can usually be represented by an image; the latter cannot be imaged, it can only be thought.

Concrete and Abstract.—There are two distinct classes of concepts which may be distinguished as *concrete* and *abstract.* In forming concepts we may unite the common elements of *objects* or the common elements of *qualities.* Thus I can form a concept from individual flowers that will contain these individuals; as, *rose;* or I can form a concept from individual qualities that will contain these qualities; as, *red.* The former class of concepts may be called *concrete;* the latter, *abstract.* The individualization of a concrete concept leads to a particular object; as, *man, bird, horse,* etc.; the individualization of an abstract concept leads to a particular quality; as, *wisdom, color, virtue,* etc.

Broad and Narrow Conceptions.—In generalization, we begin with individuals and combine them into classes. We then compare these classes and unite them into broader classes, then again unite these classes into still broader classes, and so on as far as the process can be carried. Thus we classify individual objects into dogs, lions, horses, men, birds, etc.; then unite dogs, lions, and horses into quadrupeds, and men and birds into bipeds; and then unite quadrupeds and bipeds into some higher class, as vertebrates, etc. Now the class is broader than the individual, and each new class in the series is broader than the previous class, since it contains more objects.

Higher and Lower Conceptions.—Now in these cases the broader conception, which includes the others, is called the *higher* conception; and the narrower ones which are included are called *lower* conceptions. In the process of combining lower conceptions into higher ones, we lay aside the specific differences; and in resolving higher conceptions into lower ones, we bring in the specific differences. Thus the conception *man* has fewer marks than *European* or *African,* since these latter have all the marks of *man,* besides the individual marks which distinguish them from each other. The higher the class, therefore, the greater the extent and the less the content.

Relation of Conceptions.—In any series of higher and lower conceptions, each higher is a *genus* to those next below it; out of which it was formed by generalization. The classes or conceptions next below are called the *species*. Thus horses, cows, dogs, etc., are the species of the genus quadruped. In ascending and descending the series of related conceptions, any genus becomes a species of the next higher class, and any species becomes a genus of the next lower class. The highest class, which is never a species, is called *Summum Genus;* the lowest class, which is never a genus, is called *Infima Species*.

Content and Extent.—Since a concept is formed by the union of the common attributes of individuals, it thus embraces both attributes and individuals. The attributes of a concept constitute what is called its *content;* the individuals it embraces constitute its *extent*. The power of including objects is called its *extension;* the power of including attributes is called its *intension*. The extension of a concept is also called its *breadth;* the intension of a concept is called its *depth* and also its *comprehension*.

Relation of Extension and Intension.—The two properties of extension and intension are in an inverse ratio to each other; the *greater* the extension the *less* the intension, and *vice versa*. This will be seen from the consideration that the higher the concept the more individuals it contains, but the fewer common properties. We lay aside the distinctive marks of lower conceptions as we rise to higher conceptions. Thus by laying aside the distinctive marks, *equilateral*, *isosceles*, and *scalene*, we arrive at the higher conception *triangle*, which has greater extension but less intension than *isosceles triangle* or *scalene triangle*. So the concept *man* has more extension than *poet*, *orator*, or *statesman*, since it embraces more individuals; and less intension, since we must lay aside the distinctive attributes of poet, orator, and statesman, in order to unite them in the common class *man*.

Distribution of Concepts.—A concept, or term, is said to be *distributed* when it is used in its fullest sense. Thus in the proposition, *all men are mortal*, the term *man* is distributed, or used *distributively.* In the proposition, *some men are poets,* the term *man* is *undistributed.* Such concepts, or terms, are also distinguished as *universal* and *particular.*

IV. THE QUALITIES OF CONCEPTS.—There are several qualities or attributes belonging to concepts that enable us to arrange them into distinct classes. A knowledge of these qualities or characteristics is so important in understanding the nature of the concept and the method of cultivating the power of conception, that they will be briefly considered.

Clear and Obscure Conceptions.—A concept, or any idea, is *clear* when we can distinguish it from all other ideas. When we cannot thus distinguish it from other ideas, it is said to be *obscure.* Thus in twilight we often see objects, but are unable to distinguish them from one another; in this case our cognition of them is obscure. As the light gradually increases, our view of the objects becomes so well defined that we can distinguish them from one another, and the cognition becomes clear. The same distinction may exist in respect to our abstract and general ideas. Many of our general notions, through inattention or inexperience, are obscure. Thus a large number of persons are unable to distinguish Logic from Psychology or Metaphysics, or a court of law from a court of chancery. Such conceptions are obscure to those who are not familiar with these matters.

Distinct and Confused Conceptions.—A concept is said to be *distinct* when we can distinguish its marks or attributes. Thus, we have a distinct knowledge of the concept *man* when we know its marks to be *animality* and *rationality.* A concept is *confused* when, though we may be able clearly to distinguish it from other concepts, we are unable to distinguish its marks. Thus, if we could distinguish the concept *man* from other concepts, and did not know its marks, the concept would be *confused.* A concept may thus be *clear* and yet *confused.* Many concepts are confused on account of our lack of knowledge, and may be made distinct by further study or investigation. Such ideas as *space, time,* and *color* are essentially indistinct, since it is impossible for us to distinguish their attributes.

Adequate and Inadequate Conceptions.—A concept is said to be *adequate* when we can apprehend not only the marks of the conception, but the marks of the marks. Thus, that my idea of *man* may be adequate, I must not only distinguish the attributes *animality* and *rationality*, but I must also know the marks of these attributes,—the former being life and sensation, the latter the intuition of supersensual truths and the power of thinking in the light of such truths. When in a conception we cannot distinguish the marks of the marks, then it is said to be *inadequate.* Thus a conception can be distinct and yet inadequate, at the same time.

Notative and Symbolical Conceptions.—A notative conception is one whose name suggests its marks; as, *quadruped*, *triangle*, *octagon.* A symbolical conception is one whose name serves merely as a symbol of the idea, and does not suggest the marks of the concept; as *church*, *family*, *senate.* This attribute or distinction of a conception arises from the terms employed to express them, rather than from the concept itself. Most persons use terms as symbolic, not thinking of the marks suggested by these terms. A knowledge of etymology will change many terms and their conceptions from symbolic to notative.

Absolute and Relative Conceptions.—Conceptions are also distinguished as *absolute* and *relative.* An absolute term or notion is one that does not imply any other conception; as, *stone*, *book*, *water.* A relative conception is one which implies some related conception. Thus *son* implies a *father*, *king* a *subject*, *debtor* a *creditor*, etc. A pair of relatives, like *father* and *son*, are called *correlatives.* In all relative conceptions there is some ground of relation; in father and son it is the family; in king and subject it is government.

Contrary and Contradictory Conceptions.—*Contrary conceptions* are those that embrace attributes just the opposite of one another. Thus *wise* and *foolish*, *hard* and *soft*, *love* and *hatred*, *light* and *darkness*, are contrary conceptions. *Contradictory conceptions* are those in which the attributes of one are a denial of the attributes of the other; as *man* and *not-man*, *ego* and *non-ego*, *organic* and *inorganic*, *wise* and *unwise*, *kind* and *unkind*, *holy* and *unholy*. Contradictory terms may mean merely the denial of the presence of the positive attribute, or they may imply the possession of the opposite attribute. A contradictory in form is thus often a contrary in meaning; and the tendency is for pure contradictories to become contraries. The terms *contrary* and *contradictory* are often applied indifferently to the term or conception opposite to the positive one.

Classes of Contradictories.—Contradictories are of two kinds; *substantive*, as *man* and *not-man;* and *attributive*, as *wise* and *unwise*. Substantive contradictories include between them all being, actual and possible. Thus *man* and *not-man* embrace the whole universe of being; as *not-man* includes everything not included in *man*. The attributive contradictory denies an attribute which might belong to an object, as an *unkind* man, but it cannot be said to embrace everything not included in *kind*.

Positive and Negative Conceptions.—Of these contradictory conceptions, one is called a *positive* and the other a *negative* conception. A positive conception is one which possesses positive marks; as, *man*, *wise*, *material*, etc. A negative conception is one in which there is an asserted absence of these positive marks; as, *not-man*, *unwise*, *immaterial*. The term naming the concept is in the negative form, and the form of the term indicates the negative character of the concept. The primary idea of the negative term is to merely deny the attribute; but such terms usually imply not merely the absence, but the opposite of the marks of the positive. Thus *unkind* means not merely a lack of kindness, but a presence of the opposite of kindness. The same is true of such terms as *wise* and *unwise*, *temperate* and *intemperate*. The relation between a positive and a negative conception is, in the *form* of the term, that of contradictories; but in *sense*, it is often that of contraries. When the concept means merely the absence of the positive attributes, it is appropriately called a *privative* concept; as, *unloved*, *unlearned*, *not-fast*, *not-large*, *not-*

bright. This explanation, it is thought, will make clear a distinction of terms which the logicians have usually left obscure.

The Terms Illustrated.—The following illustrations will make clear the relation of some of these conceptions:

CONTRARY	CONCEPTS.	CONTRADICTORY	CONCEPTS.
wise :	foolish	man :	not-man
hard :	soft	ego :	non-ego
love :	hatred	kind :	not-kind
light :	darkness	holy :	unholy
below :	above	wise :	unwise

Relation Illustrated.—Contrary conceptions are more widely separated than contradictories, according to the primary idea of contradictories. This arises from the primary idea of the negative being merely a privative. Their relation may be seen by the following examples:

POSITIVE.	NEGATIVE.	CONTRARY.
wise	unwise	foolish
loved	unloved	hated
learned	unlearned	ignorant
fast	not-fast	slow
large	not-large	small
many	not-many	few

These negatives are mainly privatives, signifying merely the absence of the positive attribute. The distinction between privatives and negatives is not fixed and immovable, but varies with the fluctuations of language. Many writers seem to confuse these privative and negative terms; and their definitions of contradictories and contraries will not always hold when tested by examples.

V. UNFOLDING CONCEPTIONS.—There are certain attributes of concepts and certain relations existing between them that enable us to unfold and distinguish them clearly, distinctly, and adequately. The principal methods of doing this are Logical Division, Logical Analysis, and Logical Definition

Logical Division.—If we take any class and divide it into the several conceptions combined in it, the process is called Logical Division. Logical Division divides a genus into its proximate and constituent species. We may begin at any genus, and separate it into its species, then take any of these species, and separate it into sub-species, and thus continue until we pass through infima species to individuals. The proximate species into which a genus is divided, are called *coördinate species.* Any species, in relation to any subdivision of a coördinate species, or in relation to any division coördinate to its genus, is called *disparate.* Thus *quadruped* and *biped* are coördinate under *animal; lion*, *dog*, and *horse* under *quadruped;* while *lion* is disparate with *biped* or with any division of *dog*, as *terrier.*

Logical Analysis.—If we take any conception and divide it into the marks or attributes which compose it, the process is called Logical Analysis, or Partition. Thus, if we take the concept *man*, and separate it into the marks *animality* and *rationality*, we are giving a logical analysis of it. So also we may analyze a *triangle* into the several elements,—a plane figure, rectilineal lines, three sides, and three angles. A concept is regarded as a complex unit made up of several attributes or properties; and logical analysis unfolds these properties. Logical analysis has to do with the content of a concept, while logical division has to do with its extent. The former ascertains its intension; the latter, its extension.

Logical Definition.—If we take a concept and put it into a higher concept, and then point out the difference between it and the other conceptions contained in this higher concept, we are said to define it, and the process is called Logical Definition. The differences which distinguish the concept from other concepts of the same genus are called specific differences, or the *differentia.* A logical definition therefore defines by genus and specific differences, or by genus and differentia. Thus to define *man*, we place the concept into the higher concept, *animal*, and then give the differentia, *rationality*, having the definition "Man is a rational animal." So in defining a *triangle*, we say "A triangle is a polygon of three sides," in which "polygon" is the genus and "three sides" the differentia. A logical definition is thus based on logical division and logical analysis, and is the only perfect definition of a general notion or term.

VI. THE VALUE OF GENERAL IDEAS.—From what has now been stated, the value of general ideas will be readily appreciated. It may be briefly stated that they are the basis of language and of science.

The Basis of Language.—Generalization lies at the basis of language: only as man can form general conceptions is it possible for him to form a language. The brute can never speak, as Max Müller says, because he cannot form a general notion. To give each individual or particular idea a name peculiar to itself would be impracticable and indeed impossible; the mind would soon become overwhelmed with its burden of names. Nearly all the ordinary words of our language are general rather than particular. The individuals distinguished by particular names, excepting persons and places, are comparatively few. Most objects are named only by common nouns; nearly all of our verbs express general actions; our adjectives denote common qualities, and our adverbs designate classes of actions and qualities. There are very few words in the language, besides the names of persons and places, that do not express general ideas.

The Basis of Science.—This power of generalization lies also at the basis of science. Had we no power of forming general ideas, each particular object would be a study by itself, and we should thus never pass beyond the very alphabet of knowledge. Judgments, except in the simplest form, would be impossible; and it is difficult to see how even the simplest form of the syllogism could be constructed. No general conclusion could be drawn from particulars, nor particular conclusion from generals; and thus neither inductive nor deductive reasoning would be possible. The classifications of science could not be made; and knowledge would end at the very threshold of science.

VII. EXISTENCE OF GENERAL IDEAS.—The existence of general ideas has been denied by some writers. They maintain that we have general terms, but no general ideas. They teach that in the use of general terms the notion in the mind is always particular Thus when we use the term *triangle*, if we have any mental product, it is of some particular triangle; so when we use the word *horse*, there is no mental product unless we think of some particular horse. This is the doctrine of *Nominalism*, and those who hold such views are called *Nominalists.*

Reply to Nominalism.—To this view we reply, first, that it contradicts consciousness. We are conscious that when we use a general term, as *man*, in the proposition "man is mortal," we do not think of any particular man, neither of John Smith, nor of George Washington, nor of any other man; and yet the proposition has a definite meaning to us. There must therefore be some mental product corresponding to the term *man*, or else we should not know what we were saying. So with the term *mortality*, we know what we mean by it, and yet no *particular mortality* presents itself to the mind.

Further Reply.—Besides, we know there is a difference between conceptions themselves. Thus, *man*, *white man*, *black man*, are distinctly discriminated, and without thinking of any particular man in order to do so. I can say "*All poets* are imaginative;" but I will not say "*All men* are imaginative," for I know that it is not true. I thus distinguish between *all men* and *all poets;* and I know that when I use these terms *all men* and *all poets*, I do not think of any particular man or of any particular poet. So we understand what we mean when we say a "*triangle* is not a *parallelogram;*" but in order to do so, I do not need to have some particular triangle or parallelogram in my mind. It is thus evident that these general terms mean something to us; and also that we need not have any particular image in our minds when we use them. There may be a mental product without an image.

Type of a Concept.—It has been said by the Nominalist that when we use general terms we think of some individual; and this individual stands as a *type* or *representative* of the class.

Thus I may take the image of a *duck* as the type of a *swimming bird*, or the image of a *horse* for a *quadruped.* This is probably often done, though not generally; and this type may be either a remembered percept or a product of the imagination. If, however, the Nominalist assumes that it represents the *class*, he virtually admits the existence of the class, and that we have an idea of the class, or else the type would not be known as a representative of a class. Only that which we know will admit of a representation to our minds.

The Concept not an Image.—The Nominalist errs in supposing that we can have no ideas without images. This is a fatal error: what image do we form of *virtue, wisdom, justice*, etc.? A judgment is a mental product, and yet it is not an image to us. We say two things are *equal;* does any one hold that we have no idea of *equal* unless we can form some mental image of it? The very question shows the absurdity of such a position. The concept is a mental *product*, but not a mental *image.*

VIII. CLASSIFICATION.—Generalization gives rise to Classification. The intimate relation of classification to conception, and its importance in science, make a brief discussion of it appropriate.

Nature of Classification.—By Classification we mean the process of arranging objects into classes. The basis of this process is generalization: in arranging objects into classes, the mind forms a notion of the class, and this is a conception. The power of forming the class idea is generalization or conception; the application of this idea in arranging objects is classification. The difference between generalization and classification is that the former refers to the mental process, and the latter to the arrangement of the objects. We can, however, use the word classification, referring to the mental process, but then it is equivalent to conception.

Scientific Classification.—Scientific Classification is the same in principle as that which is applied to ordinary things; the difference is that the former is more accurate than classification applied to common knowledge. It involves more radical distinctions in the objects classified, and a larger number of similar attributes and properties in those that are arranged together. Thus, if we class animals according to color, we would bring large and small, bipeds and quadrupeds together; placing the most dissimilar in the same group, while those most nearly related would often be separated. But to class by intrinsic attributes, like a vertebral column or the structure of the teeth, will bring together those objects that have an intrinsic relation to one another.

Early Attempts.—The earliest attempts at classification were rude and imperfect. Prominent characteristics were seized upon, and the objects were loosely brought together. Thus the vegetable world, at an early day, was divided into *trees*, *shrubs*, and *herbs*. Theophrastus classed plants according to *size*, *use*, *place of growth*, *lactescence*, and *generation;* and Dioscorides arranged them according to their qualities; as, *aromatic*, *alimentary*, *medicinal*, and *vinous*. The early classification of animals was also rude and unscientific. Man has stumbled and blundered on his pathway from common knowledge to scientific knowledge.

Progress of Classifying.—The first classifications were founded on the more prominent characteristics, and were loose and imperfect. As observation became more accurate, the inherent relationships were noticed, mistakes were corrected, and the classifications were more in accordance with the real nature and structure of the objects classified. In this way, as time passed by, the classifications of the material world became less and less artificial, and more and more scientific. Finally, the real relations were discovered, and the classifications became the accepted and final facts of science. The three kingdoms of nature were arranged in species, genera, classes, orders, etc., ranging from the highest division down to the lowest, which embraces the individuals.

Application to New Objects.—After forming a class from the objects known, new objects similar to these were referred to this class. The classes thus grew in the number of objects embraced, and also in common attributes. Of course mistakes were often made, which subsequent experience had to correct. The natives of the Pacific Islands classed the goats, which Captain Cook took there, among hogs, calling them *horned hogs;* while they classed the horse among dogs, calling it a *large dog.* When the Romans first saw an elephant, they classed it among oxen, calling it *Bos Lucas* or *Lucanus*, a Lucanian ox, from the name of the territory where they first saw it.

Scientific Genius.—The great classifications of science are the result of high scientific genius. Scientific classification requires a deep insight into nature, in order to find the correct principles of classification. It was many centuries before we reached even the artificial classification of Linnæus in botany; and this at last gave way to the natural system of Jussieu and Tournefort. It was not until the great genius of Cuvier applied itself to the animals of the globe that we attained to the grand classification of the animal kingdom which the science of zoölogy now presents to us. The history of mineralogy bears witness to the same fact of the triumphs of scientific genius in the discovery of the laws of relationship which led to the present classification.

Classes in Nature.—The classes of science seem to have an existence in nature. Such classes as mammalia, crustaceæ, rosaceæ, cruciferæ, etc., seem to exist in nature herself. They have a deeper significance than our common concepts, and seem to have a reality in the divine order of things. Some scientists assume that the classes of natural history represent divine ideas, ideas that were in the mind of the Creator when he put forth his creative hand. They hold that the objects of the material world were constituted after these pattern ideas or plans of structure. It is thus said that we find the classes of natural history in nature, and that the object of science is to discover the ideas of the creative mind. Believing thus, the scientist may exclaim with Kepler, "O God, I but think thy thoughts after thee!"

CHAPTER IV.

THE NATURE OF THE JUDGMENT.

JUDGMENT is the power of perceiving the agreement or disagreement of two objects of thought. Its office is comparison; it compares one object directly with another, and gives us a mental product called a *judgment*. The expression of a judgment in words is called a *proposition*. The term *judgment* is thus used to name both the faculty and its product.

Illustration.—The faculty of judgment may be illustrated in the formation of the proposition "snow is white." Here *snow* is one idea, and *white* is another idea; judgment compares these two ideas, and affirming their agreement, gives us the mental product, which, when expressed in words, forms the proposition "snow is white." The office of the faculty may be illustrated also in such propositions as "the rose is a flower," "a bird is an animal," etc. The two objects of thought compared are called the *terms* of the judgment.

Things Compared.—The two objects of thought compared by the judgment may be both concepts, or one may be a percept and the other a concept. Thus, in the judgment "a *bird* is an *animal*," both ideas are concepts; in the proposition "*Boston* is a *city*," the first idea is a percept and the second is a concept. We may also compare two percepts; as, "Boston is not Philadelphia." The illustrations we have given are those which are called "logical judgments;" and the predicate of a logical judgment is usually a concept. The only comparison in this logical form between two particulars is that which gives a negative judgment. There may be, however, another kind of comparison between particulars; as, "Boston is smaller than London," which is not in the form of the ordinary "logical judgment." Such a comparison is also an act of the judgment. If we regard it as a logical judgment, the second term of the comparison is held to be "smaller than London."

Relation of the Terms.—In the illustrations of logical judgments, it will be noticed that the second object of thought is usually broader than the first one, and includes the first. Thus, *animal* in the judgment, "a *bird* is an *animal*," is broader than *bird*, and includes bird. Sometimes, however, a part of a broader generalization is compared with a narrower one; as "some animals are birds." Occasionally both concepts are of equal rank; as, "*man* is a *rational animal*," or "a *triangle* is a *polygon of three sides*." In all "logical definitions" the two terms are of equal rank; the *genus* and *differentia* being regarded as constituting one term.

Analytic and Synthetic.—Judgment is thus seen to be both analytic and synthetic in its operation; and it may be neither. When we compare a part with a whole, or a narrower with a broader conception, the process is synthetic. When in the comparison we take a part of a conception and compare it with another conception, the process is analytic. When we compare conceptions that are equal in extent, the process is neither analytic nor synthetic. Thus, in the proposition "a bird is an animal," the judgment is synthetic; in the proposition "some animals are birds," the judgment is analytic; in the proposition "A equals B," or "a man is a rational animal," the judgment is neither analytic nor synthetic.

In one sense all judgments are synthetic. A judgment consists of the union of two ideas, and this uniting is a process of synthesis. This, however, is a superficial view of the process. Such a synthesis is a mere mechanical synthesis; below this is a thought-process which is sometimes analytic, sometimes synthetic, and sometimes neither analytic nor synthetic. Most writers on logic take another view of analytic and synthetic judgments, which it is not necessary for us to discuss.

Primitive Judgments.—The act of the mind described is what is known as *logical judgment.* Strictly speaking, however, every intelligent act of the mind is accompanied with a judgment. To know is to discriminate, and therefore to judge. Every sensation or cognition involves a knowledge, and so a judgment that it exists. The mind cannot think at all without judging; to think is to judge. Even in forming the notions which judgment compares, the mind judges. Every notion or concept implies a previous act of judgment to form it: in forming a concept, we compare the common attributes before we unite them, and comparison is judgment. It is thus true that "Every concept is a contracted judgment; every judgment an expanded concept." This kind of judgment, by which we affirm the existence of states of consciousness, discriminate qualities, distinguish percepts, and form concepts, is called *primitive* or *psychological* judgment.

Judgment of Intension.—The view of judgment as now explained, is that of comparing two different concepts, as *man* and *animal.* This is a judgment by *extension*, as one concept is seen to contain the other. We may also regard judgment as unfolding the quality of a concept, and predicating this quality of the concept. Thus, if we analyze the concept *man*, it is seen to contain the attribute of *animality*, and this attribute may be asserted of *man*, giving us the proposition, "man is an animal." This is a judgment of *intension*, as it regards the intension of the concept rather than its extension. Both views of judgment are correct; the mind may reach its judgment either by extension or by intension. The method by extension is usually the more natural.

The Proposition.—The product of the judgment is called a *judgment*, or a *proposition.* A proposition, as usually defined, is a judgment expressed in words. The term proposition, however, is used to denote not only the expression of the judgment, but also the judgment itself.

The Terms.—Every proposition involves two ideas, and expresses their relation to each other. These two notions, or the words which express them, are called *terms* of the proposition, from the Latin *termini*, extremes, because they stand at the extremities of the proposition. The term which names that of which something is affirmed is called the *subject;* the term which expresses that which is affirmed of the subject is called the *predicate.* The subject, as we have seen, may be either a percept, a concept, or an abstract; the predicate is usually a concept.

The Copula.—The word, or words, which connects the subject and predicate and expresses the relation between them, is called the *copula.* Thus, in the proposition "Man is an animal," *man* is the subject, *animal* is the predicate, and *is* is the copula. The copula is always the verb *to be*, in the present tense indicative, in an affirmative judgment; and it is the same, with the negative particle affixed, in a negative judgment. Thus, "the earth *is* round," or "pinks *are not* roses." The copula, in many cases, is not directly expressed by the word *is* or *is not*, but is expressed in some other phrase which implies them. When any other than the substantive verb is used, the copula is included in the verb. Thus "he runs" is equivalent to "he is running." When existence simply is expressed, the verb *to be* is both predicate and copula; as, "God is," that is, "God is existing."

I. NATURE OF JUDGMENTS.—Having explained the general nature of the faculty of judgment and the expression of its product, the proposition, we shall now proceed to consider a little more fully the nature of the product of the judgment. This product, as already explained, is also called *a judgment.*

Definition.—A Judgment is a mental product consisting of the relation of two or more ideas. Thus the mental product corresponding to the proposition "man is rational," is a judgment, *man* being one idea and *rational* the other idea. The terms proposition and judgment are often, for convenience, used interchangeably.

Quality and Quantity.—Judgments, or propositions, are distinguished as to *quality* and *quantity.* By the *quality* of a judgment we mean the *affirmative* or *negative* character of the judgment. In respect to quality every judgment is either *affirma-*

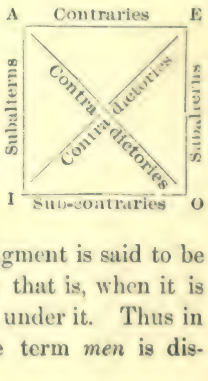
tive or *negative.* Thus "a rose is a flower" is an affirmative judgment; "a rose is not a bird" is a negative judgment. By the *quantity* of a judgment, is meant the comprehensiveness of its subject. In respect to quantity, every judgment is either *universal* or *particular.* Thus, "all birds are animals" is a universal judgment; "some birds are robins" is a particular judgment.

Kinds of Judgments.—In respect to quality and quantity, we have four kinds of judgments;—the *universal affirmative, universal negative, particular affirmative,* and *particular negative.* Thus, "all men are mortal" is a universal affirmative; "no man is an angel" is a universal negative; "some men are poets" is a particular affirmative; and "some men are not poets" is a particular negative. The universal negative can also be stated with the negative particle as a part of the copula, as "all men *are not* angels;" and this is really the meaning of the proposition in the first form.

Notation of Judgments.—For the sake of convenience, logicians designate the different kinds of judgments or propositions by the letters A, E, I, and O. Thus:

1. A, All A is B.	2. E, No A is B.
3. I, Some A is B.	4. O, Some A is not B.

Relation of Judgments.—These four judgments bear certain relations to one another, which have received special names. Thus A and E are called *contraries;* I and O are *sub-contraries;* A and I and also E and O are called *subalterns;* A and E are the *subalternans,* and I and O are the *subalternates;* A and O and also E and I are called *contradictories.* These relations will be readily understood and remembered by the diagram in the margin.



Distribution of Terms.—A term of a judgment is said to be *distributed* when it is used in its fullest sense; that is, when it is applied to each and every individual included under it. Thus in the proposition, "All men are mortal," the term *men* is distributed; in the proposition "Some men are poets," the term *men* is not distributed. In the proposition "All men are animals," the predicate is not distributed, since there are animals beside men, and the term animals is not used in its fullest sense.

Distribution in Thought.—Distribution generally shows itself in the form of the expression, but sometimes it must be determined by the thought. Thus if we say "Men are mortal," we mean all men, and the term *men* is distributed. But if we say "Books are necessary to a library," we mean, not "all books" but "some books." The test of distribution is whether the term applies to "each and every." Thus, when we say "men are mortal," it is true of each and every man that he is mortal.

Laws of Distribution.—The following principles determine the distribution of terms:

1. All universals distribute the subject.
2. All particulars do not distribute the subject.
3. All negatives distribute the predicate.
4. All affirmatives do not distribute the predicate.

Reasons for the Laws.—The reason for the first and second is obvious; for in universals the whole subject is spoken of, and in particulars only a part of the subject. The truth of the third appears in the fact that no negative judgment can hold good unless the whole of the predicate is cut off from the subject. Thus, if we say "Some men are not poets," the whole class of poets is cut off from these "some men," and the term *poets* is thus used distributively. In "No men are perfect," the whole of the class "perfect" is cut off from the class "men."

Substitutive Judgments.—It will be noticed that in the judgments given, the two terms compared are not equal in extent,—the predicate usually being more extensive than the subject. There is a class of judgments, however, in which the two terms compared are exactly alike in extent; as, "Man is a rational animal," or "A triangle is a polygon of three sides." Such judgments are called *substitutive judgments,* since the two terms may change places, or be substituted for each other. Thus we may say "Rational animals are all men," or "polygons of three sides are triangles."

Kinds of Substitutive Judgments.—Substitutive judgments may be *universal;* as, "All men are rational animals;" *particular;* as, "Some men are poets;" or *singular;* as, "Bryant is the author of *Thanatopsis.*" The judgments of mathematics are substitutive judgments, as $2 + 3 = 5$, or $4x = 24$. All logical definitions are examples of substitutive judgments, for the subject and predicate are precisely equal to each other.

II. DERIVED JUDGMENTS.—Judgments are often so related that one judgment may be derived immediately from another judgment. Such a process is, by some writers, called *immediate reasoning;* but we prefer to consider it under the judgment. The two principal methods of deriving one judgment from another are those of Opposition and Conversion.

Opposition of Judgments.—Opposition exists between judgments having the same subject and predicate, but differing in quality or quantity, or both. The different kinds of opposition are, as already explained, those of Contraries, Sub-contraries, Contradictories, and Subalterns.

Laws of Opposition.—There are certain laws growing out of the relation of the four kinds of judgments which show how some of these judgments may be derived from the others. These laws may be stated as follows:

Universal and Particular.—1. If the universal is true, the particular is true. 2. If the particular is false, the universal is false. 3. If the universal is false, nothing follows. 4. If the particular is true, nothing follows.

Contraries.—1. If one of two contraries is true, the other is false. 2. If one of two contraries is false, nothing can be inferred. This may also be stated thus: Contraries are never both true, but both may be false.

Sub-contraries.—1. If one of two sub-contraries is false, the other is true 2. If one of two sub-contraries is true, nothing can be inferred concerning the other. This may also be stated thus: Sub-contraries can never be both false, but both may be true.

Contradictories.—1. If one of two contradictories is true, the 1.
other is false. 2. If one of two contradictories is false, the other 2.
is true. This may also be stated thus: Contradictories can never be both true or both false, but always one is true and the other is false.

Illustrations.—These principles of opposition may be illustrated by such judgments as "All men are mortal," "Some men are poets," etc.; and also by the abstract judgments,—"All A is B," "No A is B," "Some A is B," and "Some A is not B."

NOTE.—These related judgments are now usually treated in Logic under Immediate Inference, a division of Reasoning. We put them here in order to give the pupil a little clearer idea of the nature and use of these judgments.

III. CONVERSION OF JUDGMENTS.—Propositions or judgments are converted when the subject and predicate change places, in such a manner that the resulting judgment is an inference from the given judgment. The resulting judgment is called the *converse;* the given judgment is called the *convertend.*

Law of Conversion.—The law of conversion is that *no term must be distributed in the converse that is not distributed in the convertend.* The reason for this is that there should be nothing more affirmed in the derived judgment than there is in the given judgment. Conversion, according to this law, sometimes requires a change in the quantity or quality of the convertend.

Kinds of Conversion.—There are three kinds of conversion;
2, Simple Conversion, Conversion by Limitation, and Conversion by
3, Negation, or Contraposition. In Simple Conversion there is no change in either quality or quantity. In Conversion by Limitation, the quality is changed from universal to particular. In Conversion by Negation the quality is changed, but not the quantity. Let us now see the application of these methods to each of the four kinds of judgments.

The Universal Affirmative.—The Universal Affirmative judgment, called A, is converted by limitation. For since the predicate is not distributed, we cannot distribute it in the converse by saying *all,* since no term must be distributed in the converse that was not distributed in the convertend. Thus, "all men are mortal" by conversion becomes "some mortals are men." Therefore A is converted by limitation into I.

The Universal Negative.—The Universal Negative, E, is converted simply. Since both terms of E are distributed, they may both be distributed in the converse without violating the law of conversion. Thus, "no men are angels" becomes by conversion, "no angels are men." That is, E is converted into E.

The Particular Affirmative.—The Particular Affirmative, I, is also converted simply. For since neither term is distributed in I, neither term should be distributed in its converse; and the converse must therefore be I. Thus, from "some birds are robins" we derive by conversion, "some robins are birds." We cannot say "all robins are birds," for though it is true, it is not legitimately derived from "some birds are robins."

The Particular Negative.—The Particular Negative is converted by negation. Thus, from "some birds are not robins" we cannot say "some robins are not birds," for we would distribute birds in the predicate, which is not distributed in the convertend. To avoid this we transfer the negative particle from the copula to the predicate, so that the convertend becomes I, which is simply converted. Thus, for "some birds are not robins," we say "some birds are *not-robins*," or "some birds are *things not robins*," from which we derive by simple conversion "some things not robins are birds."

Other Immediate Inferences.—There are several other methods of deriving one judgment from some other judgment, which our space does not allow us to consider. For a further consideration of the subject the student is referred to works on Logic.

NOTE.—In the latter part of this treatment of Judgment we have trenched a little upon the domain of Logic; but we do it to make clearer that which we have previously discussed, and also to prepare students to understand such questions as grow naturally out of the subject.

CHAPTER V.

THE NATURE OF REASONING.

REASONING is the process of comparing two objects of thought through their relation to a third. Thus, suppose I wish to compare the two objects, A and B, and see no relation between these objects, but perceive a relation between each of them and some third object, C; I can then infer a relation between A and B which I did not immediately see. That is, if A equals C and B equals C, I can then infer that A equals B. Such an inference is a process of reasoning.

Indirect Comparison.—Reasoning is thus a process of indirect or mediate comparison; it compares two objects, not directly but indirectly, through their common relation to a third object. Thus in the illustration given, it will be seen that A and B are not compared directly with each other, but indirectly, through their common relation to C. The thought goes first from A to C, then from B to C, and then from A to B; or, in other words, it goes over from A to B by passing through C. C is thus said to mediate between A and B, and the process is one of mediate rather than immediate comparison.

Three Objects of Thought.—A process of reasoning, it is seen, embraces three ideas or objects of thought, and requires three judgments or propositions. Thus in the argument,—"all men are mortal, Socrates is a man, hence Socrates is mortal,"—the three terms are *men*, *mortal*, and *Socrates*. This is the fundamental form or principle of reasoning. The simplest movement in the reasoning process is the comparing of two objects through their relation to a third.

A Comparison of Relations.—Looking at the process more closely, it will be seen that an inference in reasoning involves a comparison of relations. We infer the relation of two objects from their relations to a third object. We must thus grasp in the mind two relations; and from the comparison of these two relations we infer a third relation. The two relations from which we infer a third, are judgments; hence reasoning may also be defined as the process of deriving one judgment from two other judgments. We compare the two given judgments, and from this comparison derive the third judgment. This constitutes a single step in reasoning, and an argument so expressed is called a *Syllogism.*

Relation to Judgment.—From the explanation of Reasoning, the relation of reasoning and judgment is very readily seen. Judgment is a process of direct or immediate comparison; reasoning is a process of indirect or mediate comparison. Judgment deals with only two objects of thought; reasoning deals with three objects of thought. Judgment employs only one proposition; reasoning employs three propositions. Judgment compares only objects of thought or ideas; reasoning may be regarded as comparing judgments as well as ideas. One infers from a comparison of objects or ideas; the other infers from a comparison of relations.

Stewart's View.—Mr. Stewart, in comparing judgment and reasoning, says: "Judgments may be compared to blocks of stone lying upon the ground, upon any one of which a person may elevate himself a slight distance from the ground; while reasoning may be compared to these same blocks piled up into a grand staircase leading to some lofty tower." This makes reasoning a simple combination of judgments, the last step of the series being just the same as any of the previous steps.

Objection to Stewart.—This view overlooks the very essence of reasoning, which consists in deriving a new judgment from the relations expressed in the previous judgments. The third judgment, derived from the other two, involves a process of thought quite different from that of the two judgments upon which the inference is founded. To carry out the figure of the staircase, the third judgment, or inference, should be indicated by placing one block, the conclusion, on two other blocks, the premises; and thus all the way to the top, as high as we may build.

Other Views of Reasoning.—Writers on mental science have not all been so clear on the nature of reasoning as could be desired. One view makes the process to consist purely of analysis. Mr. Haven, who adopts this view, illustrates it as follows:—We take the concept *man*, and by analysis perceive that it contains the attribute of *mortality*, and thus affirm the judgment, "Man is mortal." But the term *man* also expresses a general as well as a complex notion; and resolving the general notion into its individual elements, and taking out one of them, as *Socrates*, we state the proposition "Socrates is a man." Then, on the principle that what is true of a class is true of each individual of the class, it follows that *mortality*, which was predicated of the class, may be predicated of *Socrates*. The affirmation that "Socrates is mortal" is virtually implied in the proposition "All men are mortal." The process is merely one of analysis.

Brown's Illustration—Dr. Brown illustrates this view by referring to the germ contained in the bulb of a plant. As by analysis we may find in the bulb of a plant germ within germ, until we are stopped by reason of the imperfection of our instruments; so in the discovery of truth by reasoning, we are limited only by the analytic power of the thinker. There may be races of beings, he thinks, whose senses would enable them to perceive the ultimate embryo in the plant; and there may be created powers of a higher order who can see in one comprehensive thought all the truths of which mankind, by successive analyses, are enabled to discover only a few.

Objection to the View.—It is sufficient to remark that this view of reasoning, though possessing some truth, is entirely inadequate for the full explanation of the subject. It would exclude mathematical reasoning altogether, and would render meaningless many of the rules of logic. It is difficult to see how a science of logic could be constructed on Brown's view of the subject. The simplest and best conception of reasoning is that of the comparison of two objects through their relation to a third; and this will include every form of mediate reasoning.

KINDS OF REASONING.—There are two kinds of reasoning, called Deductive Reasoning and Inductive Reasoning. We shall define and illustrate each, and show the kind of truth to which each is adapted.

Deductive Reasoning.—Deductive Reasoning is the process of deriving a particular truth from a general truth. Thus, from the general truth that "all metals are expanded by heat," I can infer the particular truth that any particular metal, as iron, will be expanded by heat. The reasoning of geometry is deductive reasoning. The formal statement in deductive reasoning is as follows:

All metals are expanded by heat;
Iron is a metal;
Hence, Iron is expanded by heat.

Inductive Reasoning.—Inductive Reasoning is the process of deriving a general truth from particular truths. Thus, from the particular truths that "heat will expand iron," "heat will expand zinc," etc., I can infer that "heat will expand all metals." Whenever we derive a general truth from particular truths we reason by induction. The reasoning of natural philosophy is mainly inductive reasoning. The formal statement in inductive reasoning is as follows:

Iron, zinc, etc., are expanded by heat;
Iron, zinc, etc., are all the metals;
Hence, all metals are expanded by heat.

Relation of Induction and Deduction.—These two methods of reasoning are the reverse of each other. One goes from particulars to generals; the other from generals to particulars. One is a process of analysis; the other is a process of synthesis. One rises from facts to laws; the other descends from laws to facts. Each is independent of the other, and each is a valid and essential method of inference.

Kinds of Truth.—These two methods of reasoning are adapted to two different kinds of truth. These kinds of truth are distinguished as *necessary* and *contingent* truths. "All right angles are equal to one another," and "a straight line is the shortest distance from one point to another," are examples of necessary truths. "Heat expands all metals," and "the planets move in elliptical orbits," are examples of contingent truths,

How they Differ.—These two classes of truths differ not in their *certainty*, but in their *necessity*. The contingent truth may be just as certain as the necessary truth. Thus, "All horned animals ruminate," "The sun will rise to-morrow," etc., are just as certain as that "Four times three are twelve," or "The whole is greater than any of its parts." You can conceive of the opposite of one without an absurdity; but of the opposite of the other you cannot conceive. The one is eternal and necessary, subject to no contingency, to no possibility of the opposite; the other is of the nature of an event taking place in time, subject to the possibility of change, and may be supposed to be different from what it is without any absurdity.

Reasoning Adapted to Truth.—These two classes of truths admit of two different kinds of reasoning. Deductive reasoning is usually applied to necessary truth; and inductive reasoning to contingent truth. The proof of necessary truths is usually called a *demonstration*, and the reasoning *demonstrative* reasoning; the proof of contingent truths is often called *probable* reasoning. It may be remarked, however, that we can apply inductive reasoning to necessary truth, though it is seldom done; and that we also often use demonstrative reasoning in contingent truth; though each has a sphere which seems more appropriate to its own nature.

THE SYLLOGISM.

Reasoning, as now defined, is the process of deriving one judgment from two other judgments. The form in which a process of reasoning is naturally expressed, is called a *Syllogism*. All reasoning can be and naturally is expressed in the form of the syllogism. It applies to both inductive and deductive reasoning, and is the form in which these processes are presented. Its importance as an instrument of thought requires that it receive special notice.

Definition.—A Syllogism is an argument so expressed that the conclusion necessarily follows from the form of the statement. Or, it may be defined as a combination of three judgments, in which one of them is a necessary inference from the other two. Thus, when we say all A is B, and all B is C, it inevitably follows that all A is C. So when I affirm the two propositions, "All men are mortal," "Socrates is a man," it necessarily follows that "Socrates is mortal." The term *syllogism* is derived from a Greek word signifying a reckoning all together, or reasoning.

The Three Parts.—A syllogism, it is thus seen, consists of three propositions, two of which state the grounds of the argument, and the third states the inference which flows from the other two. The two propositions from which the third is derived are called the *premises*, from *prae*, before, and *mitto*, I send; the inference is called the *conclusion*. Thus, in the example above, "All men are mortal" and "Socrates is a man," are the premises, and "Socrates is mortal" is the conclusion.

The Terms.—Each of these propositions, it is seen, contains two terms, the *subject* and the *predicate;* and the three propositions contain only three terms. One of these terms is found in both premises, and is called the *middle term;* the other two terms are called the *extremes;* both of the extremes are found in the conclusion. The subject of the conclusion is called the *minor term*, and the predicate of the conclusion is called the *major term*. Thus, in the syllogism given, *Socrates* is the minor term, *mortal* is the major term, and *man* is the middle term.

The Premises.—The Premises are named from the term which they contain. The premise containing the major term is called the *major premise;* the premise containing the minor term is called the *minor premise*. The major premise compares the major term with the middle term; the minor premise compares the minor term with the middle term. In the form of the syllogism given, which may be regarded as the fundamental or typical form, the major term is the predicate of the major premise, the minor term is the subject of the minor premise, and the middle term is the subject of the major and the predicate of the minor premise.

Reason for the Names.—The *middle term* is so called because it stands intermediate between the other two in the comparison. The *minor term* is so called because it is usually smaller in extension than the other extreme; the *major term* is so called because it is usually greater in extension than the minor term. Thus, in the syllogism given, *Socrates* includes but one person, while the class of *mortals* includes many persons. The terms are conveniently represented by the letters S, M, and P, S representing the minor term, or subject of the conclusion, P representing the major term, or predicate of the conclusion, and M representing the middle term. The general form of the syllogism is thus "M is P; S is M; hence S is P."

Order of Premises.—In the typical form of the syllogism, given above, the minor premise follows the major premise. The order of the premises is, however, not fixed and invariable. Either the major or the minor premise may be stated first. From Aristotle to Boethius, 470 A. D., the minor premise was placed first; since that time most writers on logic have placed the major premise first. The former has been called the synthetic, the latter the analytic form.

Order of Conclusion.—The order of the premises and conclusion may also vary. Thus, instead of stating the premises first and the conclusion last, we may invert this order and place the conclusion first and the premises afterward. Thus "Cæsar was a tyrant, for he was a conqueror, and all conquerors are tyrants." This form is not only valid, but is regarded by some as the more natural of the two, and the one most frequently used in ordinary speech. Hamilton distinguishes the two forms as *analytic* and *synthetic*, calling the form just given the synthetic form.

Order of Terms.—The order of the terms in the premises is also variable. The middle term may be the subject or predicate of either premise, and the other terms will vary accordingly. This variation of the position of the terms in the premises gives what are called the *figures* of the syllogism. There are four possible arrangements, and hence there are four figures.

Figures of the Syllogism.—The first figure is that in which the middle term is the subject of the major and predicate of the minor premise; as, "M is P; S is M; hence S is P." The second figure is that in which the middle term is the predicate of both premises; as, "P is M; S is M; hence S is P." The third figure is that in which the middle term is the subject of both premises; as, "M is P; M is S; hence S is P." The fourth figure is that in which the middle term is the predicate of the major premise and subject of the minor premise; as, "P is M; M is S; hence S is P."

The fourth figure was not recognized by Aristotle. It is supposed to have been introduced by Galen about the second century; it was unnoticed, however, until near the beginning of the thirteenth century. Hamilton discards it, calling it a "logical caprice." Still it is a possible theoretical form; and a syllogism may be stated in that form without any violation of the laws of thought.

Unfigured Syllogisms.—When the three terms are equal in quantity, the change of figure does not affect the conclusion. Thus, in the syllogism, "C equals B, A equals C, hence A equals B," the conclusion will not be affected by any change in the figure. These terms may be made equal by the explicit quantification of the predicate. Thus suppose we have the following syllogism:

All men are some mortals;
All poets are some men;
∴ All poets are some mortals.

Here, since the terms in each premise are exactly equal in quantity, no change will take place in the conclusion by any change in the figure of the syllogism. Thus we may have,—

Some mortals are all men;
Some men are all poets;
∴Some mortals are all poets.

This form of the syllogism was introduced by Hamilton, and called by him the Unfigured Syllogism.

Laws of the Syllogism.—The following rules or canons apply to the syllogism, and govern the mind in drawing its conclusion.

1. *Affirmative Premises.—If both premises are affirmative, the conclusion is affirmative.* In other words, if the major and minor terms both agree with the same middle term, they will agree with each other. This is evident from the axiom that "Things which agree with the same thing agree with each other." This is the law of affirmative conclusions. We must be sure that we have the same middle term, for a conclusion is not always possible from two affirmative premises.

2. *Negative Premises.—If both premises are negative, there is no conclusion.* This is evident from the fact that if both terms disagree with the same middle term, they may or may not agree with each other. There is no ground for a conclusion. Thus from "A bird is not a horse; a robin is not a horse," nothing can be inferred.

3. *Negative Conclusion.—If one of the premises is negative, the conclusion is negative.* This is evident from the fact that if one term agrees and another disagrees with a third term, they must disagree with each other. Thus from "A man is not a bird; a poet is a man," we infer that "A poet is not a bird."

4. *Middle Term Unequivocal.—The middle term must be unequivocal.* That is, it must be used in the same sense in both premises, or else we may really compare the minor term with one thing and the major with another thing, and thus have no ground for a conclusion. Thus, "Feathers are light; light is contrary to darkness; therefore, feathers are contrary to darkness" is an invalid syllogism. Here the term "light" is used in two distinct senses. In such cases, we really have four terms, and the form has been called a "logical quadruped."

5. *Middle Term Distributed.—The middle term must be distributed in at least one of the premises.* Otherwise the major term may be compared with one part of the middle term, and the minor term with another part; and there will thus be actually no common middle term, and consequently no ground for an inference. Thus, from "Men are bipeds," and "Robins are bipeds," no inference can be drawn, since the part of the class of bipeds that agrees with "men" is not the part which agrees with "robins." The same is true of "Black is a color; white is a color; hence, black is white." Let the student remember that the *subject* of a *particular* and the *predicate* of an *affirmative* are undistributed, and that the *subject* of the *universal* and the predicate of a *negative* are distributed.

6. *Distribution of Conclusion.—No term must be distributed in the conclusion that was not distributed in the premises.* This would be speaking of more in the conclusion than we have grounds for in the premises. Thus, in "All birds are bipeds; no man is a bird; hence, no man is a biped," the conclusion is invalid, since the term biped is distributed in the conclusion, being the predicate of a negative proposition, and it is not distributed in the premise. From "All men are bipeds, some men are poets," the conclusion must be "Some poets are bipeds," since "poets" was not distributed in the premise, being the predicate of an affirmative proposition.

7. *Particular Premises.—From two particular premises no conclusion can be drawn.* For, if both premises were I, no term would be distributed, and hence the middle term would be undistributed, and there would be no conclusion (Prin. 4). If both premises were O, there would be two negative premises, and thus no conclusion (Prin. 2). If one premise were I and the other O, the middle term, to be distributed, must be the predicate of O. The conclusion, if there is any, will be negative (Prin. 3), and its predicate will be distributed; hence there must be two terms distributed in the premises; and this is impossible, when they are I and O. Hence from two particular premises there is no conclusion.

8. *Particular Conclusion.—If one premise is particular, the conclusion is particular.* To prove this we shall show that a universal conclusion must be drawn from universal premises. If the universal conclusion is A, then first, both premises are affirmative, as is evident from Principles 2 and 3; second, the subject of the conclusion must be the subject of one premise in order to be distributed, since the predicate of an affirmative is not distributed, and that premise must be universal; third, for the same reason the middle term must be the subject of the other premise in order to be distributed, and that premise must be universal. Hence both of the premises must be universal for a universal affirmative conclusion.

If the universal conclusion be E, then both of its terms are distributed, and the middle term must be distributed, and this requires three terms to be distributed in the premises. This requires both premises to be universal and one of them negative, or both negative and one of them universal. But from two negatives we can draw no conclusion; therefore the premises must both be universal. Therefore, since a universal conclusion requires two universal premises, if one premise is particular, the conclusion, if any, cannot be universal, and hence must be particular.

NOTE.—These several principles enable us to dispose of any cases of syllogism that may be presented, and to dispense with the complicated *methods of reduction*, as taught by the old logicians.

Incomplete Syllogism.—In ordinary thought and expression we seldom use the complete syllogistic form. One premise is often omitted, being supplied mentally by the speaker and hearer. A syllogism with one premise unexpressed is called an *Enthymeme*, from *en* and *thymos*, meaning *in the mind*. Thus in the following:

"The Americans are a free people,
∴ They are happy,"

the major premise "All free people are happy," is unexpressed. In the following:

"Poets are imaginative,
∴ Bryant was imaginative,"

the minor premise, "Bryant was a poet," is unexpressed.

An enthymeme, like a complete syllogism, often expresses the conclusion with *because*, or *then*, or some similar term; as,

"Mr. Smith is happy, because he is virtuous."

"Aldebaran is a star; therefore it shines by its own light."

The incomplete syllogism is used in ordinary speech because the full form makes our argument or conversation seem stiff and pedantic. One of the judgments is omitted because it is so obvious, both to the speaker and to the hearer, that it would be waste of time to propound it. The full form can be readily completed when it is needed to test the correctness of the conclusion.

Complex Syllogism.—Sometimes several syllogisms are united in an abridged form, so that a conclusion may be drawn from their combination. Such a complex syllogism is called the *Sorites* or *chain-syllogism.*

The Common Sorites.—The ordinary sorites consists of a number of syllogisms in the first figure, so combined that the predicate of the first premise becomes the subject of the next premise, and so on until, in the conclusion, the predicate of the last premise is predicated of the subject of the first. Thus,

"The Hindoos are Asiatics;		A is B;
The Asiatics are men;		B is C;
Men are rational animals;	or,	C is D;
Rational animals have body and spirit;		D is E;
∴ The Hindoos have body and spirit."		∴ A is E.

Goclenian Sorites.—This order may be reversed so that the subject of one premise becomes the predicate of the following premise, and in the conclusion the predicate of the first premise is predicated of the subject of the last premise. Thus,

"Rational animals have body and spirit,		D is E;
Men are rational animals,		C is D;
Asiatics are men,	or,	B is C;
The Hindoos are Asiatics,		A is B;
∴ The Hindoos have body and spirit."		∴ A is E.

This is called the Goclenian Sorites.

Two Forms Compared.—The first form is known as the Aristotelian Sorites; the latter is called the Goclenian Sorites, having been invented by Goclenius. In the former we go from the terms of least extension to the terms of greatest extension; in the latter we begin with the term of greatest extension and proceed to the least. The former has been called the ascending, and the latter the descending form. The two forms may be compared by placing them side by side, as below.

ASCENDING SORITES.	DESCENDING SORITES.
"Caius is a man;	All sentient beings seek happiness;
All men are finite beings;	All finite beings are sentient;
All finite beings are sentient;	All men are finite beings;
All sentient beings seek happiness;	Caius is a man;
∴Caius seeks happiness."	∴Caius seeks happiness.

DEDUCTIVE REASONING.

DEDUCTIVE REASONING is the process of deriving a particular truth from a general truth. Thus, from the proposition that "All metals are expanded by heat," we may derive the particular truth that any one metal, as zinc, is expanded by heat. Stated in the formal manner of the syllogism, we have the following: "All metals are expanded by heat; iron is a metal; hence, iron is expanded by heat." A deductive argument stated in the syllogistic form gives us the deductive syllogism.

An Analytic Process.—Deduction is an analytic process. It analyzes a universal truth into the particulars which are embraced in it, and affirms of the particular what is true of the universal. Thus the truth that "All men are mortal" is seen to contain the particular truth, "Socrates is mortal," and by the deductive process, this particular truth is taken out of the general truth. Deduction is therefore an inference from the whole to its parts, that is, an analytic process.

A Descending Process.—Deduction is a descending process. The general is regarded as higher than the particular; hence t go from the general to the particular is to descend. Deduction descends from higher truths to lower truths, from laws to facts, from causes to phenomena, etc. Given the law, we can by deduction descend to the facts that fall under the law, even if we have never before seen the facts; and so from the cause we may pass down to observed and even unknown phenomena.

Origin of General Truths.—The general truths from which we reason to particulars are derived from several distinct sources. Some of them are intuitive, as the axioms of mathematics and logic. Some of them are derived from induction, as in the example "Heat expands all metals." Some of them are merely hypothetical, as in the investigation of the physical sciences. Many of the hypotheses and theories of the physical sciences are used as general truths for deductive reasoning; as the theory of gravitation, the theory of light, etc. Reasoning from the theory of universal gravitation, Leverrier discovered the position of a new planet in the heavens, before it had been observed by human eye.

Basis of Deduction.—The basis of deductive reasoning is the axiomatic truth that "Whatever is true of the whole is true of the parts," or "Whatever is true of the general is true of the particular." This principle gives validity to the deductive inference. It is our authority for this inference. If the question arises, "How do we know that the conclusion is true?" we answer we know that it is so from the self-evident proposition that "Whatever is true of the whole is true of the parts." The principle may be illustrated by the syllogism "All men are mortal, Socrates is a man, etc."

Another Statement.—The principle may also be stated that "Whatever may be affirmed or denied of the whole, may be affirmed or denied of the parts." Hamilton expresses it thus: "What belongs, or does not belong, to the containing whole, belongs, or does not belong, to each of the contained parts." Aristotle's statement of the law is equivalent to the following: "Whatever can be predicated affirmatively or negatively of any class or term distributed, can be predicated in like manner of all and singular the classes or individuals contained under it." This is the celebrated *Dictum* of Aristotle.

Origin of the Basis.—This principle is a self-evident and necessary truth. It is not derived from reasoning, but lies back of and conditions all reasoning. The proposition is the product of the intuitive power.

I. ANOTHER FORM OF DEDUCTION.—There is another form of deductive reasoning in which the major premise does not contain the conclusion. Thus, "B equals C, and A equals C, hence A equals B." Here it will be seen that the major premise, "B equals C," does not contain the conclusion, "A equals B," and thus we do not go from generals to particulars. It is also seen that the law of inference in this syllogism is not that already given, "Whatever is true of the whole is true of the parts." The law of inference is the axiomatic truth, that "Things which are equal to the same thing are equal to one another."

The Concepts Equal.—The peculiarity of this reasoning is that the concepts expressed by the terms compared are not of different extent. The three terms are precisely equal, and thus there is no subordination of the propositions. This reasoning is that which prevails in mathematics. Thus, $x = y$, and $y = 4$, hence $x = 4$. Or in geometry, the triangle $ABC =$ the square $ABCD$, and the triangle $LMN =$ the square $ABCD$; hence the triangle $ABC =$ the triangle LMN.

Reduced to Previous Form.—Some writers endeavor to resolve this into the form in which the law of inference is used as the major premise. Thus, "Things that are equal to the same thing are equal to each other; A and B are equal to the same thing, C; hence A and B are equal to each other."

Objection to This.—If this be insisted upon, we should insist with equal propriety upon placing the ordinary deductive syllogism in a similar form. Thus, we should reason,—

"Whatever is true of the general is true of the particular;
It is true of the general that all men are mortal;
Hence it is true of the particular that Socrates is mortal."

This would be very awkward and is unnecessary; and so we maintain that the syllogism, "A = B; B = C; hence A = C," is in its proper and normal form. And thus the axiom, "Things that are equal to the same thing are equal to one another," may be regarded as a law of inference in the one case, just as the law from the general to the particular applies in the other case.

NOTE.—To avoid this difficulty, I have sometimes thought it might be well to distinguish three kinds of reasoning: *Deduction*, which passes from generals to particulars; *Induction*, which passes from particulars to generals; and *Conduction*, which passes from thing to thing of the same rank. Each of these forms, when presented in a syllogism, would have its special law of inference and they would rank as coördinates. Each can be reduced to the deductive form, and if either one is so reduced, all of them should be. It would thus seem that there are three kinds of reasoning, or only one kind. This, however, would be a radical departure from the accepted theory of logic. It is probably better to include this latter form under Deduction, and retain the syllogism in the usual form in accordance with the explanation I have given.

II. MATHEMATICAL REASONING.—The form of deduction which we have just considered is that found in mathematics, and is thus called *mathematical reasoning*. This is of so much importance, being the principal and most extensive application of deductive reasoning, that it demands a few words of explanation.

Mediate Comparison.—Mathematical reasoning is a process of mediate comparison. It is one of the finest illustrations of the reasoning process in which two things are compared through their relation to a third. The simplest form of it is "A equals B, but B equals C; hence A equals C." Here it is assumed that we see no direct relation between A and C, but infer their equality by comparing each with B. A good example of this is seen in the demonstration of the square on the hypothenuse, where a square and a rectangle are proved equal to each other because they are equal to the double of equal triangles.

Kinds of Mathematical Reasoning.—There are two distinct methods of reasoning in mathematics, the Direct and the Indirect. By the Direct Method, one quantity is compared with another through their common relation to a third, or by a reference to the definitions and axioms, or to some principle previously proved. In geometry, one quantity is sometimes proved equal to another by *superposition.*

By the Indirect Method we may suppose the given proposition not to be true, and then show that such a supposition leads to an absurdity; or we make a number of suppositions, one of which must be true, and then show that all but the one we wish to establish are false. This method is called the method of the *reductio ad absurdum.* It is frequently used to prove the converse of a proposition when there is no good direct method.

Errors in Mathematical Reasoning.—There are two errors of reasoning to which young persons are liable. The first is called *Reasoning in a Circle;* the second is *Begging the Question.* We reason in a circle when, in demonstrating a truth, we employ a second truth which cannot be proved without the aid of the first. We are said to beg the question when, in order to establish a proposition, we employ the proposition itself.

Mathematical Reasoning Identical.—It has been held by Leibnitz and others that mathematical reasoning is merely a comparison of identicals, that it is nothing more than $a = a$; in other words, that it is merely a statement that a thing is equivalent to itself. This opinion is erroneous, and shows an incorrect conception of the subject of reasoning. Even in so simple a proposition as $3 \times 2 = 6$, the two quantities are not identical, though they are equal in value: 3×2 expresses one conception of quantity, "2 taken 3 times," and 6 expresses another conception, "six units." So also in $3 \times 4 = 2 \times 6$, we have two entirely different conceptions of quantity; and we only know they are equal by their common relation to 12. Thus $3 \times 4 = 12$, and $2 \times 6 = 12$, hence $3 \times 4 = 2 \times 6$. In geometry we can prove two dissimilar figures, as a triangle and a square, equal to one another, since both are equal to some common quantity. The same thing also holds in algebra.

Force of Mathematical Reasoning.—The question of the force and irresistible cogency of mathematical reasoning has often been discussed. Some philosophers hold that it is merely on account of the pains taken to define the terms employed, and the strict adherence to these definitions. Stewart ascribes the force of mathematical reasoning to the fact that the principles from which it sets out—that is, its definitions—are *purely hypothetical*, involving no admixture of facts; and that by simply reasoning upon these hypotheses, the conclusions follow inevitably. It is held that the same thing would be true of any other science, if we could frame our definitions to suit ourselves instead of being obliged to proceed upon facts as our data. The truths of mathematics "are necessary in no other sense than that certain definitions being assumed, certain *suppositions* made, then certain other things follow."

Objection to this View.—This is an incorrect view of the subject, and illustrates the liability of the pure metaphysician to error, when he deals with mathematical subjects. The definitions of mathematics are not in any sense *hypothetical*, but describe definite ideas, and express certain truths as propositions. An hypothesis can be supposed to be other than it is; but a mathematical definition, as of a circle, is seen to state a truth that cannot be supposed to be other than it is. If the points of the circumference, for instance, were unequally distant from the centre, it would not be a circle.

The Correct View.—The real reason for the certainty of mathematical reasoning may be stated as follows: First, its ideas are definite, necessary, and exact conceptions of quantity. Second, its definitions, as the description of these ideas, are necessary, exact, and indisputable truths. Third, the axioms from which we derive conclusions by comparison, are all self-evident and necessary truths. Comparing these exact ideas by the necessary laws of inference, the result must be absolutely true. Or, stated in another way, using these definitions and axioms as the premises of a syllogism, the conclusion follows inevitably. There is no place or opportunity for error to creep in to mar or vitiate our derived truths.

Applied to Inductive Sciences.—Mathematical reasoning may be employed in the inductive sciences; indeed, some of their greatest achievements have been obtained through mathematics. By it Newton demonstrated the truth of the theory of gravitation; by it Leverrier discovered a new planet in the heavens; by it the exact time of an eclipse of the sun or moon is predicted centuries before it comes to pass. Mathematics is the instrument by which the engineer tunnels our mountains, bridges our rivers, constructs our aqueducts, erects our factories and makes them musical with the busy hum of spindles. Take away the results of the reasoning of mathematics, and there would go with it nearly all the material achievements which give convenience and glory to modern civilization.

INDUCTIVE REASONING.

INDUCTIVE REASONING is the process of deriving a general truth from particular truths. It is the process of inferring a general law from particular facts. Thus, suppose that I observe that heat expands iron, and zinc, and copper, etc.; from these facts I can infer that "Heat will expand all metals." Such an inference is an argument by induction. In the same manner, by observing that many men die, I can infer that "All men are mortal." This process of inferring a general truth from particular facts is called Induction.

Unknown from the Known.—Induction is thus the process of inferring the unknown from the known. Thus, in the example given, from what I know of iron, copper, zinc, etc., I infer that which I have not observed in other metals. It is a conclusion from something observed to something not observed; from something within to something beyond my sphere of actual experience. In other words, it is a process of thought from the known to the unknown.

A Synthetic Process.—Induction is also a synthetic process. It combines special facts and finds the general law which comprehends them all. Thus the law that heat expands all metals comprehends all the particular facts of heat expanding each particular metal. The particular facts are united by the mind into the general law; the general law embraces the particular facts and binds them together into a unity of principle and thought. Induction is thus a process of thought from the parts to the whole—a synthetic process.

An Ascending Process.—Induction may also be regarded as an ascending process: it rises from particular facts to general truths. The general truth is conceived as standing above the particular truths out of which it is formed. We go up the ladder of thought in ascending from the particular to the general; and the facts may be regarded as the rounds of the ladder.

Relation to Deduction.—The relation of induction to deduction will be clearly seen. Induction and Deduction are the converse, the opposites of each other. Deduction derives a particular truth from a general truth; Induction derives a general truth from particular truths. This antithesis appears in every particular. Deduction goes from generals to particulars; Induction goes from particulars to generals. Deduction is an analytic process; Induction is a synthetic process. Deduction is a descending process—it goes from the higher truth to the lower truth; Induction is an ascending process—it goes from the lower truth to the higher. They differ also in that Deduction may be applied to necessary truths, while Induction is mainly restricted to contingent truths.

Kinds of Induction.—There are two kinds of inductive reasoning, which may be distinguished as Logical Induction and Practical Induction. Logical Induction assumes that we know all the particulars in inferring a general truth. This, however, in practice, is usually impossible. We cannot know all the facts, so we assume that the facts known represent those which are not known, and employ the principle that "What is true of the many is true of the whole." This is the inductive inference that is of real, practical use to us. The former is called logical, because the inference carries with it a logical necessity, without the possibility of exception. The latter gives us a conclusion not necessarily true, but which we usually accept as true. Logical induction is called by some writers induction by *simple enumeration.*

Basis of Induction.—The basis of induction is the proposition that *what is true of the many is true of the whole.* Esser, an eminent logician, states it thus, "That which belongs or does not belong to many things of the same kind, belongs or does not belong to all things of the same kind." This proposition is founded on our faith in the uniformity of nature: take away this belief, and all reasoning by induction falls. The basis of induction is thus often stated to be *man's faith in the uniformity of nature.* Induction has been compared to a ladder upon which we ascend from facts to laws. This ladder cannot stand unless it has something to rest upon; and this something is our faith in the constancy of nature's laws.

Origin of Basis.—The basis of induction—our faith in the uniformity of nature's laws—is said to be intuitive. It seems to be a law of our intelligence, something growing out of the constitution of the mind. Whenever we have uniformly observed that a number of different objects of the same class possess a common attribute, we are, by a law of our nature, disposed to conclude that this attribute is possessed by all the objects of this class. This principle of extending our inferences beyond the limits of experience is universal, and manifests itself at the earliest age of intellectual development. It may not always be expressed in a definite proposition, but it is tacitly assumed and acted upon by all men. It has, therefore, been regarded as a natural principle of our intelligence.

The intuitive origin of this principle is held by many of the German and Scotch metaphysicians, and also by Cousin and others of the French thinkers. Many modern thinkers, however, maintain that it is itself an inductive truth, a truth learned from experience and observation; and that it is by no means among the first, but among the latest of our inductions. In reply to this view, we remark that the mind manifests a belief in this principle at a very early age; and that if we assume this principle to be an induction, it takes away our basis of inductive reasoning.

Limits of Belief.—This principle must be employed with certain limitations. To infer universally that what is true of the many is true of the whole, will lead us into error. "Many of the books in my library have green covers, therefore all have," would be evidently an incorrect inference. "Many dogs bark, therefore all dogs bark," is contradicted by a species of dog found in Greenland. The people of Siam, who know nothing of ice, might infer that water can never be in any other than a liquid state; or the inhabitants of Central Africa, who have never seen a white man, might infer that all men are black. The error in the first and second cases consists in not noticing the exceptions; in the third and fourth it seems to be in not limiting the law to "similar circumstances."

I. CRITERIA OF INDUCTION.—Since mistakes may be frequently made in the application of the principle of inductive reasoning, the question arises how to apply the principle correctly; that is, when we are warranted in taking some instances as samples of the whole class. This leads us to the establishment of certain laws or rules called the *Criteria of Induction.*

Simple Enumeration.—The first criterion for the application of the law is that of *complete enumeration.* If each one of the particulars has the property under consideration, then it is conclusive that all have it. Thus, if it is seen that May, June, July, and August, which are the months of the greatest growth, are the only months that do not contain the letter *r*, then the conclusion is certain that "the months without the letter *r* are the months of greatest growth." If the astronomer finds, by actual observation, that each of the planets moves in an elliptical orbit, then it is absolutely certain that all the planets move in elliptical orbits.

This is what Bacon calls *Induction by Simple Enumeration.* It has also been called *Empirical Induction*, because it does not go beyond actual experience. Hamilton calls it *Logical Induction,* because it is the only induction which is necessitated by the laws of thought. It is, however, entirely unimportant in the discovery of truth, as it does not reach beyond the sphere of experience. For progress in thought, we need an induction that transcends experience, and enables us to step beyond the known into the sphere of the unknown, and infer what we have not yet seen.

A Causal Agency.—The second criterion is the perception of a *causal agency* or some other uniform concomitant which tends to secure a uniform result among all the similar cases. Thus, by observation astronomers found that eclipses followed one another in regular order; they could then, by induction, infer that they would repeat in this order, and thus foretell an eclipse; but when the true theory of the motions of the heavenly bodies was discovered, the cause of this regularity became known, and the predictions of eclipses became much more certain. So also when we observe that several planets revolve in elliptical orbits, we may infer that all planets revolve in elliptical orbits; but when we add to this the principle that their motions are produced by the action of centrifugal and centripetal forces, the product of whose joint action is an elliptical orbit, the conclusion that all planets move in elliptical orbits becomes almost indisputable. The cause gives a stamp of certainty that does not accompany the mere multiplicity of cases, on account of the principle that like causes produce like effects.

Causes Difficult to Discover.—Causes are not always readily ascertained; indeed there is often very great difficulty in determining the causes of facts and phenomena. These difficulties arise from several sources, a few of which we mention. First, the cause is occult, not a thing of sense, and the fact that acts as a cause is not perceived in that relation to other facts. Second, causes seldom or never act simply; in most cases any given fact is the result of several causes all working to the same end. Third, causes sometimes interfere and counteract or modify one another's influence. Fourth, the same result may sometimes be produced by different causes. Fifth, things apparently related as cause and effect may both be effects of the same cause.

II. TESTS OF CAUSAL AGENCY.—This difficulty in determining the cause of facts and phenomena leads to the investigation of tests by which we may ascertain the causal agency in any particular case and thus be able to make an inductive inference. These several tests as given by Mill and now accepted by nearly all subsequent writers, are as follows: the Method of Agreement, the Method of Difference, the Method of Residues, and the Method of Concomitant Variations.

Method of Agreement.—The Method of Agreement, as stated by Atwater, is,—*If, whenever a given object or agency is present, without counteracting forces, a given effect is produced, there is strong evidence that the object or agency is the cause of the effect.* Thus, if in every application of a given degree of heat water boils, iron expands, and clay hardens, we may infer that heat is the cause of these effects; and we are authorized to draw the inductive inference that whenever the cause is applied the effect will follow. We must remember, however, that the same effect may be produced by different causes; as the sensation of heat may arise from a fire, or warm weather, or a fever, or excessive clothing; but it is usually easy to determine which one of the several causes actually produced the effect.

Method of Difference.—The Method of Difference is,—*If when the supposed cause is present the effect is present, and when the supposed cause is absent the effect is wanting, there being in neither case any other agents present to effect the result, we may reasonably infer that the supposed cause is the real one.* Thus, we have a double proof that sound is the result of vibrations of air produced by a resonant body, if, on the one hand, whenever sound is heard such vibrations are found; and whenever such vibrations appear sound is given forth; and if, on the other hand, a bell or sonorous body yields no sound when struck in an exhausted receiver. So also it proves "that the contact of moisture is the cause of the decomposition of animal matter, if, whenever the latter occurs moisture is present; if dryness checks or arrests it; and if salt, which prevents it, acts by detaching the water from the meats which it preserves."

Method of Residues.—The Method of Residues, or Residual Variations, is,—*When in any phenomena we find a result remaining after the effects of all known causes are estimated, we may attribute it to a residual agent not yet reckoned.* Thus, it was found that the velocity of sound as derived by experiment differed from the velocity as determined by the calculation of the motion of air waves. This residual velocity was a perplexing fact, until the happy thought came to La Place that it might arise from the heat developed by the motion of the air-waves. The result of such a residual cause was calculated, and found to furnish a complete explanation of the variation, and thus established the supposition of La Place.

Concomitant Variations.—The Method of Concomitant Variations is,—*When a variation in a given antecedent is accompanied by a variation of a given consequent, they are in some manner related as cause and effect.* Thus, it was proved by Pascal that the column of mercury in the Torricellian tube was counterpoised by a column of air, by ascertaining that when the instrument was carried up a mountain the height of the column of mercury diminished in proportion as the height of the column of air above it was diminished.

Now, as Atwater remarks, whenever either of these criteria is found, free from conflicting evidence, and especially when several of them concur, the evidence is clear that the cases observed are fair representatives of the whole class, and warrant a valid universal inductive conclusion.

HYPOTHESIS AND THEORY.

In Inductive Reasoning, we cannot always reach the general truth, especially when it is a cause or a law, by a mere synthesis of the facts and phenomena. In such cases, the mind frames a supposition or conjecture, which is received as provisionally true and tested by the facts. Sometimes this supposition is made from a few facts, and other facts are searched for and collected to test its correctness. Such a supposition or conjecture is called an

Hypothesis or a Theory. We shall devote a few words to the explanation of each.

An Hypothesis.—An Hypothesis may be defined as a supposition or conjecture to account for facts and phenomena. It is a judgment which is held to be possibly, not certainly, true; and whose truth is to be tested by the facts. Such a conjecture may apply either to the *cause* of facts, as the movement in elliptical orbits, or to the *law* which governs facts, as the law of "equal areas in equal times."

A Theory.—A Theory is an accepted explanation of facts and phenomena. It may thus be defined as a *verified hypothesis.* When an hypothesis is shown to explain all the facts that are known, these facts being varied and extensive, it is said to be verified, and becomes a theory. Thus we have the theory of universal gravitation, the Copernican theory of the solar system, the undulatory theory of light, etc., all of which were originally mere hypotheses.

The Term Used Loosely.—This is the manner in which the term is usually employed in the inductive philosophy; though it must be admitted that it is not always used in this strict sense. Discarded hypotheses are often referred to as theories; and that which is actually a theory is sometimes called an hypothesis. Thus writers speak of the phlogistic and antiphlogistic theories, the theory of caloric, etc., hypotheses which were never verified and are now discarded. The term theory is also used in mathematics in a different sense, meaning the principles of the subject in distinction from the practice of it.

Probability of Hypotheses.—The probability of an hypothesis is in proportion to the number of facts and phenomena it will explain. The larger the number of facts and phenomena that it will satisfactorily account for, the greater our faith in the correctness of our supposition. Thus the larger the number of the phenomena of light which the "undulatory hypothesis" will explain, the greater the probability of its being a correct supposition. If there is more than one hypothesis in respect to the facts under consideration, that one which accounts for the greatest number of facts is the most probable. Thus, when it was seen that the supposition that light was caused by undulations accounted for more facts than the hypothesis of corpuscles, the first supposition became the more probable.

Verification of Hypotheses.—In order to verify an hypothesis, it must be shown that it will account for all the facts and phenomena. If these facts are numerous and varied, and the subject is so thoroughly investigated that it is quite certain that no important class of facts has been overlooked, the supposition is regarded as true, and the hypothesis is said to be verified. Thus, the hypothesis of the "daily rotation" of the earth on its axis to account for the succession of day and night is accepted as absolutely true. This is the view taken by Dr. Whewell and many other thinkers in respect to the verification of an hypothesis.

Another View.—Some writers, however, as Mill and his school, maintain that in order to verify an hypothesis, we must show not only that it explains all the facts and phenomena, but that there is no other possible hypothesis which will account for them. According to this, the "undulatory hypothesis" of light has not been verified, since it has never been shown that the phenomena of light could not be accounted for by some other supposition. The former view of verification is regarded as the correct one. By the latter view, it is evident that an hypothesis could never be verified.

Origin of Hypotheses.—The hypotheses of science originate in what is called *anticipation.* They are not the result of a mere synthesis of facts, for no combination of facts can give the law or cause. We do not see the law; we see the facts, and the mind thinks the law. By the power of anticipation, the mind often leaps from a few facts to the cause which produces them or the law which governs them. Many hypotheses were but a happy intuition of the mind. They were the result of what La Place calls "a great guess," or of what Plato so beautifully designates as "a sacred suspicion of truth." The forming of hypotheses requires a suggestive mind, a lively fancy, a philosophic imagination, that catches a glimpse of the idea through the form, or sees the law standing behind the fact.

Value of Hypotheses.—The value of hypotheses to science can hardly be overstated. Nearly all the great truths of the physical sciences were once merely hypotheses. The idea of the identity of lightning and electricity lay in Franklin's mind as a mere supposition until he proved it by means of his silken kite. The Copernican theory of the solar system was a mere hypothesis, until it was verified by the observations of astronomers. Kepler made and rejected twenty suppositions in regard to the shape of the earth's orbit before he discovered the true one. Newton's theory of universal gravitation was a mere hypothesis when it first occurred to his mind as he sat in the garden and saw the apple fall, and was accepted as true only when, failing at first, he at last demonstrated its correctness.

Use of Wrong Hypotheses.—Even incorrect hypotheses may be of use in scientific research, since they may lead to more correct suppositions. The supposition of the *circular motions* of the heavenly bodies around the earth as a centre, which led to the conception of epicycles, etc., and at last to the true theory, is an illustration of this. So the "theory of phlogiston" in chemistry, made many facts intelligible, before the true one of "oxidation" superseded it. And so, as Thomson says, "with the theory that 'Nature abhors a vacuum,' which served to bring together many cognate facts not previously considered as related." Even an incorrect conception of this kind has its place in science, so long as it is applicable to the facts; when facts occur which it cannot explain, we either correct it or replace it by a new one. The pathway of science, some one remarks, is strewn with the remains of discarded hypotheses. "To try wrong guesses," says Dr. Whewell, "is with most persons the only way to hit upon right ones."

Application of Hypotheses.—This subject is of so much importance as illustrating those mental operations that belong to science and practical life that I add a few more illustrations, quoting from Thomson's *Laws of Thought:* "The system of anatomy which has immortalized the name of Oken, is the consequence of a flash of anticipation which glanced through his mind when he picked up in a chance walk the skull of a deer, bleached and disintegrated by the weather, and exclaimed, after a glance, 'It is part of a vertebral column!' When Newton saw the apple fall, the anticipatory question flashed through his mind, 'Why do not the heavenly bodies fall like this apple?' In neither case had accident any important share; Newton and Oken were prepared by the deepest previous study to seize upon the unimportant fact offered to them, and show how important it might become; and if the apple and the deer-skull had been wanting, some other falling body, or some other skull, would have touched the string so ready to vibrate. But in each case there was a great step of anticipation; Oken thought he saw the type of the whole skeleton in the single vertebra, whilst Newton conceived at once that the whole universe was full of bodies tending to fall."

"The discovery of Goethe, which did for the vegetable kingdom what Oken did for the animal, that the parts of a plant are to be regarded as metamorphosed leaves, is an apparent exception to the necessity of discipline for invention, since it was the discovery of a poet in a region to which he seemed to have paid no especial or laborious attention. But Goethe was himself most anxious to rest the basis of this discovery upon his observation rather than his imagination, and doubtless with good reason." "As with other great discoveries, hints had been given already, though not pursued, both of Goethe's and Oken's principles. Goethe left his to be followed up by others, and but for his great fame, perhaps his name would never have been connected with it. Oken had amassed all the materials necessary for the establishment of his theory; he was able at once to discover and conquer the new territory."

ANALOGY.

Analogy is that process of thought by which we infer that if two things resemble each other in one or more particulars, they will resemble each other in some other particular. The term analogy is derived from *ana* and *logos*, and means, literally, according to proportion.

Illustration.—To illustrate analogy, suppose that two objects, A and B, are observed to agree in one or more qualities, and we find a quality in A that we have not observed in B; we infer, by analogy, that B also possesses that attribute. Newton observed that the diamond possessed a high degree of refractive power compared with its density; he knew this to be true of some bodies which were combustible; hence he inferred by analogy, that the diamond contained a combustible element. He made the same inference also in respect to water, and in both cases his inference was correct.

Law of Analogy.—Analogy thus infers from the partial similarity of two or more things their total similarity. The principle of inference is,—*when one thing resembles another in known particulars, it will resemble it also in the unknown.* Another statement of the principle is, *if two things agree in several particulars, they will also agree in other particulars.* Thus, suppose the attributes *a*, *b*, *c*, *d*, and *e* are found in A, and part of them, as *a*, *b*, and *c* are found in B; then by analogy we would infer that the other attributes, *d* and *e*, are found in B.

Application of the Principle.—This principle is in constant application in ordinary life and in science. A physician, in visiting a patient, says, this disease corresponds in several particulars with typhoid fever, hence it will correspond in all particulars, and is typhoid fever. So, when the geologist discovers a fossil animal with large, strong, blunt claws, he infers that it procured its food by scratching or burrowing in the earth. It was by analogy that Dr. Buckland constructed an animal from a few fossil bones, and, when subsequently the bones of the entire animal were discovered, his construction was found to be correct.

Relation to Induction.—The reasoning by Analogy is closely related to that of Induction. They agree in this, that they both proceed from the known to the unknown, from something within to something beyond the sphere of observation. They differ, however, in an important respect. Induction infers from the particular to the general, and analogy infers from one particular to another particular. Analogy infers more in respect to an *object* than we have observed; Induction infers more in respect to a *class* than we have observed. Thus,in analogy, having observed that the Earth and Venus are alike in many particulars, we infer that Venus is inhabited because the Earth is. By induction, having observed that the Earth, Venus, Mars, and several of the planets, revolve in elliptical orbits, we infer that all of the planets revolve in such orbits.

The Law of Each.—The law of induction is that "what is true of many is true of all;" the law of analogy is "things that have some things in common have other things in common." In induction the inference is that of a unity in plurality; in analogy, the inference is that of a plurality in unity. In the former it is a law of the *one in many;* in the latter it is the law of the *many in one.* Induction proceeds on the principle,—*one in many, therefore one in all;* analogy proceeds on the principle, *many in one, therefore all in one.* Thus, if the attribute *a* is found in A, B, C, D, etc., and A, B, C, D, etc., belong to the class Q, then by induction we infer that the attribute *a* belongs to the class Q. While by analogy we infer that if *a*, *b*, *c*, *d*, and *e* are found in A, and *a*, *b*, and *c* are in B, *d* and *e* will be found in B.

Probability of Analogy.—The probability of analogy depends on the number of observed resemblances. Every similarity which is noticed between two objects increases the probability that the two objects resemble each other in some other property. When the two resemble each other in all respects, there is no longer any doubt that a property found in one object is also found in the other. In comparing two objects, the differences as well as the similarities must be taken into consideration. These come into competition in our judgment, and must be weighed against one another, and the inference be given on the side which has the most weight. To illustrate, suppose the observed resemblances between two objects are to the observed differences as four to one; then we conclude that the probability is four to one that the objects will agree in some property observed in one object and not in the other. That is, there are four chances out of five of such agreement.

Illustration of Probability.—The trite example of the proof of the inhabitability of the moon is a good illustration of this principle of probability of analogy. The moon resembles the earth in figure, motion, opacity, relation to the sun, etc.; but the earth is inhabited, therefore it is probable that the moon resembles the earth in this respect, and is also inhabited. But there are points of dissimilarity which create a counter-probability that the moon is not inhabited. The moon is thought to have no atmosphere or water; but air and water are necessary to life on the earth; hence life cannot exist in the moon unless under different circumstances from what it exists in the earth. Now the greater the number of resemblances between the two planets in other respects, the less is it probable that they differ in the mode of sustaining life; so that the resemblances noted do themselves become presumptions against the moon being inhabited; and the greater the number of resemblances the less the probability of the moon being inhabited.

Use of Analogy.—Analogy is of value in the discovery of new facts, as in discovering the combustible element of water and the diamond. By analogy Franklin was led to make the experiment with his kite that proved the identity of electricity and lightning. Analogy also aids induction in the discovery of laws and causes. It often suggests the hypotheses which induction afterwards proves to be true. It frequently points out the road to experiment and induction, and thus pioneers the way to the discovery of truth. The fall of the apple, by analogy, suggested to Newton the idea of the moon falling towards the earth, which resulted in the discovery of the great law of gravitation.

Argument Deceptive.—The argument from analogy is plausible, but often deceptive. Thus to infer that since American swans are white the Australian swan is white, gives a false conclusion, for it is really black. So to infer that because John Smith has a red nose and is a drunkard, that Henry Jones who also has a red nose is also a drunkard, would be a dangerous inference. The common argument,—since animals and nations both grow from infancy, and animals die, therefore nations will also decay,—is as delusive as it is plausible. Conclusions of this kind, drawn from analogy, are frequently fallacious. Mandeville uses the following argument against popular education: "If the horse knew enough, he would soon throw his rider." He intends to imply two pairs of related terms; thus, "As the horse is to the rider, so are the people to their rulers;" which is of course a fallacy, since the relations are not similar.

To be Used With Caution.—The inference from analogy, like that from induction, should be used with caution. Its conclusion must not be regarded as certain, but merely as reaching a high degree of probability. The inference from a part to a part, no more than from a part to the whole, is attended with any rational necessity. To attain certainty, we must show that the principles which lie at the root of the process are either necessary laws of thought or necessary laws of nature; both of which are impossible. Hence analogy can pretend to only a high degree of probability. It may even reach a large degree of certainty, but it never reaches necessity. We must, therefore, be careful not to accept any inference from analogy as true until it is proved to be true by actual observation and experiment, or by such an application of induction as to remove all reasonable doubt.

Influence on Literature.—Analogy, in its popular sense of similarity, exercises an influence on language and literature. In many cases, visible or tangible things lend their names to invisible and spiritual things, from some analogy more or less striking. Thus we speak of a *clear* statement, a *lofty* idea, a *deep* thought, in which the adjectives applied to immaterial things are drawn from the analogies of the material world. So also the figures of rhetoric,—the simile, the metaphor, personification, etc.—are derived from the analogies perceived between different things. Poetry, wit, and even the most dignified orations, abound in figures and illustrations drawn from the similitudes of nature.

TESTIMONY.

The materials used in inductive reasoning are obtained in two ways; by Experience and by Testimony. Experience has reference to the knowledge we gain for ourselves by perception; and includes ordinary *observation* and *experiment*. Observation is the perception of nature in her ordinary or usual relations. By experiment man puts nature into new or different relations, and observes the result. The other source of facts is Testimony, which we shall now discuss.

Definition of Testimony.—By Testimony, in philosophy, is meant the statement to one of the experience of another. It implies and is usually restricted to the communication of facts not observed by the person to whom they are stated. Such a statement may be made either orally or in writing; we may thus have two kinds of testimony; *oral* and *written*. These statements may be true or untrue; they may be worthy or unworthy of belief; and consequently the conclusions drawn from them may be true or false. It is thus necessary to investigate the credibility of testimony, and determine the warrants of our belief in it.

Testimony Probable.—Testimony is in itself probable. It is natural for the normally constituted mind to state what is true; a statement to deceive is contrary to the natural working of the human intellect and the moral nature. It is also natural for us to believe what is stated to us. As children we confide in the statements of parents and companions; and it is only as we grow older and find ourselves deceived, that we begin to be suspicious and grow wary and cautious in accepting a statement as true. A belief in testimony is also reasonable, since man's observations are usually reliable and his moral intentions trustworthy. There is usually some strong motive required to induce a man to testify to a falsehood.

Character of Witness.—The credibility of testimony depends somewhat on the character of the witness. It is natural to place more confidence in the testimony of a man of known veracity than in the statements of one of known falsity. The credibility of testimony, however, is not determined entirely by the character of the witness. A bad man may tell the truth; a man of good reputation may tell a falsehood. Still it is reasonable to place more confidence in the testimony of a man of good reputation than in that of a person whose character is questionable.

Conditions of Belief.—There are certain conditions which limit or modify our belief in testimony. These conditions may all be embraced under two distinct classes: first, those which relate to the *testimony itself;* and second, those which relate to the *person giving* the testimony. Both of these conditions are necessary for the credibility of testimony; and if either one is wanting, the testimony is to that extent weakened.

First Condition.—In respect to the character of the testimony, the first requirement is, that it must not contradict the laws of thought, nor the immutable laws of nature. Thus, if one should testify that he had seen a part greater than a whole, or had demonstrated the inequality of two right angles, we should not accept his testimony as true. So if any one testified that he knew a man who thought with his toes and walked with his eyes, we are authorized to refuse to believe his testimony. A second requirement is that respecting the character of the narrative, the condition being that it should be explicit, comparatively full, and self-consistent. The concurrence of the testimony of several witnesses is also a condition of belief.

Second Condition.—The second general condition of credibility, that in respect to the person, regards his *competency* and *veracity*, or *honesty*. The ability or competency of a witness depends upon his power to correctly observe facts, and also to correctly report them. Any lack of ability in observing or reporting facts weakens the credibility of his testimony. Weakness of eyesight or hardness of hearing would affect the credibility of a man's testimony in respect to what he had seen or heard. The veracity of a witness implies his desire and intention to report correctly. It includes both the character of the person and the motive which governs him in his testimony. Any evidence of a lack of veracity evidently impairs the credibility of the testimony. These two conditions, ability and veracity, do not imply one another, for it not unfrequently happens that where the honesty is greatest, the competency is least, and *vice versa.*

Strength of Proof.—A concurrence of these two classes of conditions constitutes the strength of testimony. In any case of testimony, if we know the witness to be a person of good character, that there is no motive for deception, that the statement is full, explicit, and consistent, and if it coincides with the statement of other witnesses,—then, by a law of our nature, we are compelled to believe what is testified to. Such a belief is entirely natural, and almost inevitable. Indeed, it has been shown that "it is always possible to assign a number of independent witnesses so great, that the falsity of their concurrent testimony shall be mathematically more improbable, and so more incredible, than the truth of their statement *be it what it may.*"

Testimony Weakened.—The probability of testimony is weakened in proportion as the above conditions do not fully co-exist. If there is but a single witness, or if a number are not of good character, or if there be some motive for deception, or if they be not entirely agreed as to the principal facts of the case, or the narrative be inconsistent or contradictory, or the statement vague and hesitating,—in so far as several or all of these conditions co-exist, the testimony would be weakened. It is held, however, that we may always suppose a case so strong that the falsity of the witnesses would be a greater miracle than the truth of their testimony. This is claimed to be true with respect to the testimony of the witnesses to our Saviour's miracles.

Witness May be Mistaken.—In testing testimony, the possibility of a witness being mistaken in his observation, or in some inference connected with the observation, is to be taken into consideration. That is, the appearance may have been just such as is described, but there may have been some illusion of the senses. Thus an oar in the water looks as if it were bent, but the person is mistaken who affirms that it is bent. So one who should testify that he saw a ball of fire or an angelic form hovering in the air, might suppose he saw them, but be mistaken; the appearance may have been as described, while there was neither a ball of fire nor an angel. The witness may report correctly the appearance, but be mistaken in respect to what it was that he heard or saw. This must be determined by the rules of common sense which guide us in the ordinary affairs of life, aided, in some cases, by such scientific principles as may be applicable to the subjects of testimony. With these to guide us, we can usually satisfy ourselves in respect to the facts of testimony upon which we are to base our inferences.

CHAPTER VI.

THE CULTURE OF THE UNDERSTANDING.

THE UNDERSTANDING, like the other faculties, can be cultivated, and we now proceed to discuss the culture of this faculty. In this discussion we shall first speak in general of the importance of such culture, and then explain the methods of culture in each one of the specific forms of the faculty.

I. THE IMPORTANCE OF CULTURE.—The culture of the understanding touches the highest interests of mankind. No faculty contributes more to the happiness and well-being of man, or does more for the progress of society and civilization. The understanding is the faculty of thought, and man as a thinker occupies the highest position of honor and usefulness. By the power of thought man becomes the master of the world. It is the attribute of creative thought that crowns him with the prerogative of authority, enabling him to enslave the forces of nature and use them for his comfort and happiness.

For Man's Excellence.—The understanding should be cultivated for the perfection of our intellectual nature. The power of thought is the highest activity of the intellect. The man of thought is the man of dignity and power; the thinkers of the world are the men whom the world delights to honor. The great philosopher is enthroned in the memory of mankind, and his achievements live with the ages. Plato, Aristotle, Kant, and Locke, are the names around which the world twines its brightest laurels. The discoveries of Copernicus, Newton, Kepler, and La Place, will stand as monuments to their memory when marble columns and tablets of brass have mouldered to dust. The power of thought should therefore be cultivated for its own intrinsic excellence.

For the Progress of Science.—The understanding should be cultivated for the progress of science. Science is itself an object worthy of our attention; the temples of science are as beautiful as the Parthenon and more enduring than the Pyramids. Science is also a means of progress and development to the race; the progress of civilization is largely due to the development of the truths of science. This development is the result of thought. It was the profound thinkers of antiquity that laid the foundation of philosophy and mathematics. It was the profound thinkers of the last few centuries that gave such far-reaching application to mathematical and astronomical science. It is to the great thinkers of the world that we owe the almost marvellous theories and discoveries of modern science. It is thus evident that the culture of thought-power will aid in the progress of science.

For the Progress of Truth.—We need the culture of the understanding for the progress of truth. Science itself is a body of truth; but there is truth also outside of the sciences, the truths of morality and politics, of social life and religion. Much of this truth, that has not yet been organized into science, possesses a dignity and is of value in itself, and thus merits our best efforts for its comprehension and development. Truth is also a blessing to mankind in its influence upon his condition and well-being, and thus has further claims upon us for its discovery and dissemination. Truth is the herald of social and national progress: it is the pillar of cloud by day and the pillar of fire by night, to lead the march of events towards the promise of a brighter future. These truths are reached by the power of thought; and the understanding, which gives this power of thought, should therefore be carefully developed. Man should be a truth-lover, a truth-seeker, and a truth-finder; and the object of education should be to develop this taste and ability, and make him both a lover of thought and a thinker.

For Success in Life.—The faculty of the understanding should be cultivated also for the advantage it brings to us personally. No faculty contributes more to high success in life than the power of thought. The man of good judgment, the man that can think clearly and comprehensively, the man that can penetrate the future and foresee the coming event,—this man will usually be successful in the business affairs of life. The great business men, the celebrated merchants, speculators, and railroad presidents, are usually men of great thought-power. The great general plans his campaign with judgment and foresight, and wins his battles by intellectual combinations, quite as much as by the valor of his soldiers. Other things being equal, the man of best thought-power will be the most successful in the business of life.

II. NEGLECT OF CULTURE.—The culture of the understanding has been very generally neglected in our methods of teaching. The object of teachers seems to have been to fill the memory with the facts and truths of a subject, rather than to develop the power by which these truths were obtained. They have failed to develop the power of original thought and investigation. Even in teaching thought-studies, the memory has been brought into activity more than the understanding. The mind has too often been regarded as a capacity to be filled, rather than an activity to be developed. Teachers have aimed to put knowledge into the mind, as we pour water into a vessel, or shovel coal into a coal-bin; while the power that originates knowledge, that works up ideas and thoughts into laws and principles, has been neglected. One reason why the so-called "self-educated men" often show more thought-power than those who have been trained in our schools, is that, following the bent of their own minds, they have developed the power of original thought.

III. TIME FOR CULTURE.—The culture of the understanding should begin early in life. While perception and memory seem to be more active in youth, the understanding is also active at an early age. The inquiry after the causes of facts and phenomena, and the drawing of conclusions from experience, indicate an early activity of these powers of thought. The faculty of judgment, by which comparisons are made, is active from the earliest dawn of consciousness; and the power of reasoning also awakens very early. Young persons should therefore be taught so as to give activity to the powers of thought.

Adapted to the Age.—This culture should be carefully adapted to the age and development of the pupils. Children should be taught to compare objects, to inquire for causes, and to see the relation of things to one another. Inductive reasoning should precede deductive; causes should be presented before laws and principles; and deductive thought and the generalizations of science should be introduced as the mind becomes prepared for them.

IV. DIVISIONS FOR DISCUSSION.—The discussion of the culture of the understanding is conveniently presented under the following general heads: the Culture of Generalization and Classification, the Culture of the Judgment, and the Culture of Reasoning. For the Culture of Abstraction but little can be directly done by the teacher; and we shall therefore give no formal discussion of it, but merely make a few suggestions in the closing paragraph of the present chapter.

V. CULTURE OF ABSTRACTION.—The power of Abstraction operates spontaneously at a very early age. The mind soon learns to draw qualities away from the objects in which they are perceived, and to regard them as distinct objects of thought. There is but little need of special exercises to cultivate this power. A few lessons to lead pupils to abstract the various qualities from objects might be given. A careful drill on the qualities as expressed in objects will be sufficient to give the power of conceiving them independently of objects. Care should be taken, however, not to keep the mind on the concrete too long. To hold the mind down to tangible objects when it is prepared for abstract thought, would be to enfeeble its powers and dwarf its growth. Something can be done also by the teacher to cultivate a taste for abstract thought; and such culture is highly recommended.

CHAPTER VII.

THE CULTURE OF GENERALIZATION.

GENERALIZATION, or *Conception*, is a spontaneous activity of the mind, and in its simpler and ordinary forms develops naturally with the growth of the other faculties. Something may be done by the teacher, however, to lead the student to general ideas and the use of general terms. Special lessons may be given to lead the minds of children from the particular to the general, from percepts to concepts. Individual objects may be presented to the senses, and the mind be gradually led to the formation of general notions embracing these objects.

In Different Studies.—This culture may be given in several of the school-room studies. In geography, individual rivers may be grouped together into river-systems, particular mountains into mountain-chains, etc. In teaching definitions, which are usually the description of general notions, the pupil may be led from particular examples to the general idea; indeed, a clear and definite idea of the general notion is only possible as we have distinct and definite ideas of particulars. In teaching grammar, lessons should be given on particular words as the names of objects, from which the pupil can be led to the general definition of a *noun* as the name of an object; and the same method should be pursued with the other parts of speech. Studies presented in this manner will aid the mind in developing the power of generalization.

More Direct Culture.—Besides this general culture of conception afforded incidentally by experience and the studies of the school, there are some special exercises that may be employed for this culture. These exercises may be included under three general heads; Logical Analysis, Logical Division, and Logical Definition.

I. BY LOGICAL ANALYSIS.—By Logical Analysis is meant the examination and minute observation of the concept and the attributes which it embraces. It aids us in attaining to the several qualities of conception; namely, clearness, distinctness, and adequacy. A few remarks on the formation of conceptions and the use of logical analysis will be appropriate.

Form Real Notions.—We should be careful to form actual and definite general notions, and not be satisfied merely with general terms. The general notion must be preserved by a word; but there is a tendency to use words without a definite conception of their meaning. We often suppose we have in our minds the ideas of things, when we really have only a word which we use vaguely and blindly. Many of our general terms are mere hollow forms, without any content of meaning. What we need is to fill the mould with ideas, so that it will be no longer an empty form, but a solid content. This reality of conceptions may be obtained by a careful and exhaustive analysis of our general notions.

Form Clear Conceptions.—We should aim, first of all, to give the quality of *clearness* to our conceptions. The tendency is to use terms without their creating in the mind the ideas for which they stand. General terms are often used like the algebraic symbols, which stand for quantities without our thinking of any particular quantity until the result is obtained. In using such words as *virtue, liberty, religion, church*, etc., we often do not think of what is contained in them; but pass them on as a banker hands out bills, without thinking of the gold and silver they stand for, or the articles they would purchase. We can avoid the evil consequences of this habit by frequently referring to these words, and allowing them to awaken the full conception for which they are the symbols. Special efforts to analyze concepts into their marks are also necessary for the reality and clearness of our conceptions.

Form Distinct Conceptions.—There should be special pain taken to cultivate *distinctness* of conception. By distinctness of conception, as previously explained, is meant the cognition of the marks or attributes of a concept. The tendency is to rest satisfied with merely clearness of conception, and we thus fail to attain distinctness in our general notions. This error is seen even in our perceptions; how many of us can point out the marks of the handwriting which we could identify under oath, or even describe the face of a friend with whom we are familiar? In the cognition of our conceptions we are still more liable to indistinctness; indistinct perceptions lead to the habit of indistinct conceptions. We can correct this error by increasing the distinctness of our perceptions. Our conceptions will also become distinct by a careful analysis of their marks, and a comparison with other concepts; and special efforts should be made for the attainment of this quality.

Form Adequate Conceptions.—We should also aim to make our conceptions *adequate.* That is, we should endeavor not only to know the marks of our conceptions, but also to know the marks of the marks. Adequacy refers also to the *number* and *relative importance* of the marks. A concept may be perfectly *clear* and *distinct*, and still be a very *inadequate* representation of the class of things for which it stands, as it may connote but two or three of the many attributes, and those of trifling importance. Thus we may have a clear and distinct concept of man as "a two-legged animal without feathers," but it is inadequate, as it omits the crowning mark of *rationality.* Concepts may be made adequate by a careful analysis of their marks, and a comparison of them with other marks or attributes. Accurate perception will also aid us in this work, as the concrete is the basis of the abstract and general. The examination of the meaning of words in the dictionary, tracing the definition of the terms employed in any given definition, will also be found a useful exercise in attaining to the attribute of adequacy.

Use of Notative Conceptions.—We may enlarge or deepen the significance of concepts by reaching their marks through the notative meaning of terms. To most persons, all terms are merely symbolical, suggesting none of the attributes of the concept. Thus, such words as *education*, *faculty*, *philosophy*, *oligarchy*, etc., are to most minds merely symbolical; while to the scholar who understands their origin, they suggest certain leading marks of the concept for which they stand. A careful attention to the structure of words will often suggest some of the marks of the concept. The study of the ancient languages or of etymology is found valuable in this respect. Thus, a knowledge of the etymology of such words as *perception*, *conception*, *abstraction*, *religion*, *synthesis*, *analysis*, etc., will immediately suggest to the mind the marks of the concepts for which they stand. It must be remembered, however, that the etymology of the word will not always give a correct notion of the marks of the concept, on account of changes in the meaning of the term since its introduction into the language; as, *lunacy*, *heathen*, *subtraction*, etc.

Increase the Meaning of Concepts.—We can thus increase the meaning of our concepts by study and experience. General terms have not the same significance to different minds; they are much richer in meaning to some minds than to others. The term *home*, for instance, has but little significance to one who has never experienced its influence; but to those who have enjoyed its blessings, it is filled with the rich experience of a mother's love, or father's care, and a thousand hallowed memories. A large experience thus deepens and broadens the significance of our general terms. Some authors seem to load their words with a marvellous fullness and richness of meaning, resulting from profound study and reflection. They have, as it were, poured into the verbal form a richness and beauty from their souls, that seem to irradiate their words with a light almost divine. By study and reflection we can increase and enrich the meaning of our own words, add force and influence to our expression, and beautify and strengthen our mother tongue.

II. BY LOGICAL DIVISION.—The careful logical division of concepts aids in giving clearness and distinctness to our conceptions. A distinct view of the subordinate conceptions contained in any given concept widens and deepens our idea of that concept. As Atwater well remarks, "The thorough logical division of any subject, thus defining the sphere and the objects it includes, greatly assists the clear, thorough, and facile discussion of it. It also aids invention. The most sterile mind will find something to say on a subject well mapped out. Indeed, so to map it out, is to say something important." The logical division of our concepts will thus aid us in gaining clear conceptions of them, and also give breadth and depth to our general notions.

Rules for Logical Division.—In making these logical divisions, the student must be careful to observe the following rules:

RULE I.—In logical division there should be but *one principle of division*. Thus it would be incorrect to divide *mankind* into Europeans, Americans, Pagans, and Christians, since the first division is according to locality and the second according to religion. So also it would be wrong to divide the books of a library into poetry, history, Latin, French, morocco, and cloth. The violation of this rule leads to what is called "cross-divisions," in which the same object would be embraced under two or more classes. Unobserved cross-divisions are a fruitful source of perplexity and confusion, and care should be taken to avoid them.

RULE II.—In logical division the members should *exclude one another*. This rule flows from the previous one; and a violation of the former leads to a violation of the latter. Thus to divide *lines* into straight, curved, circular, and elliptical, or *ideas* into particular, general, abstract, and concrete, would violate this rule, as some of the divisions are included in others. The preacher who proposed to prove a certain doctrine by reason, revelation, and St. Paul, fell into this error, forgetting that revelation included the testimony of Paul. A violation of this rule offends the careful thinker, and confuses the minds of those who may not notice the error. Carelessness in this respect reminds one of the Chinese, who are said to divide the race into first Chinese, then men, and then women.

Rule III.—In logical division, the division should be *complete.* That is, it should include *all the species;* or, in other words, the sum of the species should be exactly equal to the genus divided. This rule is violated by *leaving out* any of the parts of a genus, as when we divide *actions* into good and bad, and omit those which are indifferent. So also when a *subdivision is coördinated with a division;* as to divide *bipeds* into men and robins, rather than into men and birds. The rule is also violated by *dividing a member too far;* as to divide polygons into triangles, quadrilaterals, parallelograms, squares, etc. The parts named should be of the same rank with one another, and the sum of all should exactly equal the concept divided.

Rule IV.—Logical division should proceed from *proximate genera* to *proximate species.* There should be no leaping from one rank to a remote rank in the series of higher and lower conceptions, but a stepping from one to the next lower. Thus to divide *animals* into horses, robins, salmon, etc., without previously dividing them into mammals, birds, and fishes, would be a violation of this rule. We should become utterly confused in botany if we were to begin to arrange the vegetable kingdom under roses, lilies, oaks, and lichens. Naturalists have a regular system of classification so that they can pass step by step from the highest class to the lowest. Thus in Botany the vegetable kingdom is divided into the Phaenogamia and Cryptogamia, which are divided and subdivided until we come to the lowest species. In Zoölogy the animal kingdom is divided into four great branches,—Vertebrates, Articulates, Mollusks, and Radiates; from which we proceed by successive divisions to species and individuals. These divisions are the type of that logical accuracy with which we should endeavor to divide any subject which we may be discussing.

Use of These Rules.—These rules are a necessity to scientific thought, and are invaluable to all clear thinking. To those who desire to attain to clearness and distinctness of conceptions, practice in logical division is indispensable. The writing of logical outlines in the different studies is of great value in the cultivation of the power to make clear distinctions and obtain a logical grasp of any subject.

III. BY LOGICAL DEFINITION.—Exercises in logical definition are also valuable in unfolding our conceptions. Logical definition, including both the genus and the specific difference, gives clearness, definiteness, and adequacy to our conceptions. It separates a conception from all other conceptions by fixing upon and presenting the essential and distinctive property or properties of the conception defined. The value of exercises in logical definition is thus readily apparent. The distinct explication of the marks of concepts is of fundamental importance in accurate thought and discourse, and this is given in logical definition.

Rules for Logical Definition.—In logical definition, the following rules are to be observed:

RULE I.—A logical definition should unfold the *essence of the notion* defined. That is, it should be by genus and differentia. The concept defined should first be put into the next higher class and then distinguished from other species of that class. Thus in defining *man*, we must first say he is an animal, and then distinguish him from other animals by the attribute of rationality, saying, "Man is a rational animal."

Should be Essential Attributes.—The definition must embrace essential and not accidental attributes; and to discover these requires rigid analysis and careful discrimination. The statement of differences that are not essential will give a definition that may be logical in form but worthless in thought. The old Platonic definition, "Man is a two-legged animal without feathers," was easily shown by Diogenes to be worthless by presenting a plucked chicken as Plato's man. The uneducated man often sees only the accidental attributes; the disciplined mind seeks for the distinguishing marks, and is not satisfied until it has found them. Such a habit leads to definite and adequate notions of our general ideas.

Rule II.—A logical definition should be *adequate.* That is, it should have precisely the same extension as the thing defined. If the definition includes more than the notion defined, it is too broad; if it includes less, it is too narrow. Thus, the definition, "Man is an animal," is too broad; while the definition, "A polygon is a triangle," is too narrow. So "Grammar is the science of language," is too broad; and "A triangle is a figure having three rectilinear sides," is too narrow. The test of an adequate definition is that it may be *simply converted;* thus, "A man is a rational animal," becomes, when converted, "A rational animal is man." An inadequate definition will not admit of simple conversion.

Rule III.—A logical definition should be by *affirmatives* and not by *negatives.* That is, it should not state what a concept is not, but what it is; for it does not give us a notion of what a thing is by stating what it is not. To define *man* as *not an angel* or *not a brute,* does not give us either a distinct or a clear idea of man. The definition of *parallel lines* as "lines which do not meet," or of a *straight line* as "one that does not change its direction," is not satisfactory to the clear thinker. Negative words are, however, found in the language, and are sometimes useful in expressing shades of thought, and require a negative definition; as, *unholy, insincere,* etc.

Rule IV.—A logical definition should be *perspicuous.* That is, it should not be expressed in vague, ambiguous, or senseless language. Care should be taken not to employ figurative expressions in definitions. "Tropes and figures," says Krug, "are logical hieroglyphics; they do not indicate the thing itself, but only something similar." Thus to say, "Truth is the grand scope of all existence," or "Logic is the light-house of the understanding," or "The Divine nature is a circle whose centre is everywhere and circumference nowhere," may do as rhetorical expressions, but have no value as definitions.

Rule V.—A logical definition should not be *tautological.* That is, it should not contain the name of the thing to be defined.

Neither must we use a derivative or synonym or correlative of the term, which cannot be explained except through the term to be defined. Thus, such definitions as "Life is the vital force," or "Law is a lawful command," are of no value; for the definition uses the very word we wish to define. This fault is called *defining in a circle*, since such a definition returns upon itself. Thus, when we define light as "that which illuminates," and "that which illuminates" as light, we are defining in a circle. The error is one to be carefully guarded against, as we are liable to fall into it unawares. We can hardly ridicule the boy who said "ratio is proportion," and then "proportion is ratio," when we remember that lexicographers have defined a plank as "a thick board" and a board as a "thin plank."

Rule VI.—A logical definition should be *precise.* That is, it should be free from surplus attributes or words. Thus, to define a triangle as "a polygon with three sides and three angles" is incorrect, as either the "three angles" or the "three sides" are superfluous in the definition. So also to say that a parallelogram is "a quadrilateral having its opposite sides parallel *and equal*," though it is true, is not only superfluous but misleading, since it implies that there could be such a figure without having its opposite sides equal.

Conclusion.—By careful attention to these rules of logical definition and logical division, and an application of them to the subjects we are studying, combined with a frequent logical analysis of our general notions, we can attain to a clear and distinct use of general terms, and cultivate the power of conception to a full and comprehensive activity.

The Culture of Classification.

Classification is the application of the power of generalization. As found in the sciences, classification may be defined as scientific generalization. This power of classification should receive careful attention in the education of the young. A few remarks will be made on the subject under the two heads; Importance of Classification and Methods of Cultivating this Power.

I. IMPORTANCE OF CLASSIFICATION.—The power of classification is of great value to mankind in every department of life, and in every occupation and profession. To impress the importance of its culture we shall notice briefly its value in common life, in study, and in science.

In Common Life.—Classification is of value in the common affairs of life. It gives system to man's actions, and is thus an economy of labor and time. The mechanic who has a place for everything and everything in its place, will do more work in a day than one who is deficient in system. The farmer who systematizes his work will raise better crops and receive a larger return from them, than one who takes things loose and easy. The merchant who has a methodical arrangement of his goods, or the business man who keeps his papers properly classified, will expedite business and accomplish more than the man who lacks system. Even the good housewife knows the importance of having her duties properly systematized, if she would dispatch her work and relieve herself somewhat from its annoyances.

To the Student.—The power of classification is invaluable to the student. A careful classification of any branch of study will give one a clearer view of the subject, and enable him more easily to retain it. Historical events, to be easily remembered, must be arranged in proper order, or grouped around some leading central events on which they depend. The study of history by historical epochs, gives a view of events in their relations which makes it much easier to carry them in the memory. The same is true, to a greater or less extent, in every branch of study. A text-book properly classified will give one a much clearer idea of the subject than one which lacks this system. The easy discussion of any question is dependent on the same law of classification. The speaker must have his subject arranged under appropriate headings if he wishes to recall the different points readily, and discuss them in their proper order.

Value in Science.—The power of classification is of especial value in science. Science has been defined as systematized knowledge; there can be no science without classification. In both the inductive and the deductive sciences, there must be an orderly arrangement of the subject-matter; while in one branch of the former, that of Natural History, classification is the leading feature. Thus the science of Botany consists of the arrangement of plants into species, genera, orders, etc., and the same is true in Zöology and Mineralogy. These sciences assume that the objects of the three kingdoms were created after great pattern ideas, differentiated all the way down from the broadest classes to the species and individuals; and the object of these sciences is to find these ideas and classify accordingly. In order to become a naturalist, therefore, we must have the power of classification well developed.

II. METHODS OF CULTURE.—Admitting the importance of the power of classification, the question arises, how may this power be cultivated? In answer to this question, a few suggestions for its culture will now be presented.

Classify Objects.—To train the powers of classification of young pupils, they may have lessons in the classification of objects. The arrangement of color-cards under the heads of the different primary colors, or the arrangement of tints under the common color of which they are varieties, is an excellent exercise for young people. We may also give them a number of pebbles, and require them to class them in respect to size, also in respect to color, also in respect to form, etc. We may also give them a collection of flowers, and require them to arrange them into classes with respect to color, the forms of the leaves, the forms of the petals, the number of stamens, etc. A large number of such exercises may be arranged with profit to young learners.

Classify Studies.—Pupils may be required to classify the subject-matter of their different studies. In geography a geographical outline may be given, and the pupils be required to collate their knowledge from different sources, and recite it under the different headings. In history the facts may be grouped together into periods and epochs, and learned and recited in such connection. A similar method may be employed in several of the branches of school study. A habit of thus arranging knowledge will be found almost invaluable in general reading; and such practice gives culture to the power of classification.

Write Outlines.—Pupils should be required to write outlines of the studies they are pursuing. Such outlines may be either logical or topical; some branches, as mathematics and grammar, will admit of logical outlines; others, such as geography and history, of only topical outlines. The lesson of each recitation may be outlined on paper or on the blackboard; and occasionally several previous lessons may be included in the daily outline. It will often be best to let the pupil outline the subject for himself; and then, after he has the benefit of this exercise, the teacher may present a more complete or logical outline for the pupils to copy and use. In some subjects, the recitation may be conducted in accordance with a carefully prepared outline of the subject previously presented to the pupils. In completing a study, the pupil should be able to give a general outline of the entire subject. Such a drill will train the pupil to systematic habits of thought and study, and give the power of a comprehensive grasp of subjects.

Study Classificatory Sciences.—The study of the classificatory sciences is best adapted to give culture to the power of classification. The classificatory studies are the several branches of Natural History; Botany, Zoölogy, and Mineralogy. The main object of these sciences is to arrange objects into species, genera, orders, etc.; and they afford the best examples of logical classification. Indeed, they may be said to exhibit the perfection of classification; no other science, except mathematics, can approach them in the beauty and exactness of their generalizations. The study of the sciences gives a continual drill in systematic classification; and trains the mind to habits of vigorous and systematic thought.

Study the Principles of Classification.—The student should be required to notice and study the principles of classification in these sciences. There should be an intelligent grasp of the relations expressed in these classifications. The student of botany should not only know in what class a flower is found, but he should also see why it is found there. He should see the relation of the different classes to one another, and to the higher classes of which they are coördinate parts. In other words, he should not only understand the science itself, but also the philosophy of the science. He should grasp the law by which it is developed, and see how he might himself develop the science if all knowledge of it were lost. Such a training, though usually neglected in teaching the sciences, is regarded as of vast importance in securing the proper culture from their study.

The Beauty of Classification.—Efforts should be made to lead the pupil to appreciate the beauty of the scientific classification of natural history. Some of these divisions and relations manifest a wide comprehension of facts and a grand generalization of thought. Cuvier's division of the animal kingdom into the four great departments, Agassiz's law of classifying the fishes in respect to the form of their scales, and the similar grasp of essential similarities and differences exhibited in the vegetable kingdom, fill the mind with wonder and admiration of both the laws involved and the minds that discovered them. The pupil who is led to appreciate these things will study them with a new interest, and obtain a discipline that can not otherwise be given.

Classification of the Sciences.—The advanced student may be led to study the problem of the classification of the sciences. This is an old problem, and has engaged the attention of the great thinkers of nearly every age. Among those who have attempted to solve it we may mention Bacon, Locke, D'Alembert, and Comte. Though no one has given a classification entirely satisfactory to the scientific world, many of those presented are ingenious and show a wide grasp of principles; and their examination will be of real value to the student. An attempt to solve the problem for himself, will also be of interest and afford culture to the power of classification.

CHAPTER VIII.

THE CULTURE OF THE JUDGMENT.

THE JUDGMENT demands attention in this work of mental culture. The power of Judgment operates spontaneously in every mind, though in different degrees; but much can be done to stimulate it to activity, and to direct and increase its power. We shall present a few thoughts on the subject under the two heads,—Importance of its Culture, and Methods of Culture.

I. IMPORTANCE OF THE JUDGMENT.—The power of judgment is of great value to man in respect to the activities of the mind and its products. It is involved in or accompanies every act of the intellect, and thus lies at the foundation of all intellectual activity. It operates directly in every act of the understanding; and even aids the other faculties of the mind in completing their activities and products. Its relation to each one of the faculties will be briefly noticed.

Value to Perception.—Judgment aids the faculty of perception. The first step or act of perception is the discrimination of sensations; and discrimination is a work of judgment. The cognition of the organism and the external object also involve distinctions requiring the action of this faculty. In forming our perceptions of objects, we distinguish the different qualities given by the sense or by different senses, and these qualities we unite to form our complex notion of the object. The distinction between the *ego* and the *non-ego* also involves an act of judgment, for to distinguish is to compare or judge.

Value to Memory.—Judgment is also of great value to the memory. The memory operates by the laws of association. Association implies comparison; we must compare in order to associate. We could not know things as similar or in contrast, or as contiguous in time and place, unless there was an act of judgment to perceive these relations. Judgment thus aids the mind in remembering; other things being equal, the clearer our perceptions of the relation of objects of thought, the better will they be remembered. The culture of the judgment thus directly affects the power of the memory.

Basis of Thought.—Judgment, as has already been seen, lies at the basis of all thinking. All thought-knowledge involves an act of the judgment. Even in abstraction, there is a comparison of the elements in order that we may distinguish the quality which we abstract. A concept is formed by uniting common attributes; and there must be a comparison in order to discover these common attributes. Each premise of a syllogism is a judgment; and the derived proposition is also in the form of a judgment. Every act of the understanding, therefore, involves the element of comparison, or an act of judgment; and we may thus say that the judgment lies at the basis of all thought-knowledge.

Basis of Science.—Judgment lies at the basis of all the sciences. The materials of the sciences are given by perception and intuition: perception gives us ideas and facts, and intuition ideas and intuitive truths. Both the facts of perception and the axioms of intuition are expressed as propositions; and a proposition is a judgment expressed. These sciences are developed by generalization and reasoning; and judgment is involved in both generalization and reasoning. Every principle or law of science is stated in the form of a judgment. The activity of judgment is thus concerned in the foundation of the sciences, and runs through the entire superstructure. No scientific thought would be possible without the faculty of judgment.

Basis of Poetry.—Judgment is also the basis of poetry. Every poetical figure involves an act of comparison. The simile, "As unto the bow the cord is, So unto the man is woman," involves a direct judgment; and the metaphor, "Your voiceless lips, O flowers, are living preachers," is an assumed one. So in personification, there is a perception of relations, or we could not ascribe the attributes of one thing to another. In a selection like the following, the element of comparison may be seen running like a golden thread through every line:

> "The bridegroom sea
> Is toying with the shore, his wedded bride,
> And, in the fullness of his marriage joy,
> He decorates her tawny brow with shells,
> Retires a space, to see how fair she looks,
> Then proud runs up to kiss her."

And so all through imaginative literature, the principle of comparison gives it its life and spirit, and imparts those attributes of beauty that touch the imagination and thrill the heart.

II. METHODS OF CULTIVATING THE JUDGMENT.—The judgment, like every other faculty, acts spontaneously, and is developed naturally by its own activity. Still it will admit of some special training; and a few suggestions are presented in respect to such culture. These suggestions apply especially to the culture of the judgment of young pupils.

Exercises in Comparison.—Special lessons may be given to children in comparing objects. They may have exercises in comparing objects in respect to size, color, weight, etc. They may also be required to compare their ideas and form propositions; the construction of sentences about objects is an exercise of judgment. Some of the most practical exercises, however, are the comparison of the forms, colors, lengths, surfaces, volumes, and weights of objects.

Compare Forms.—Among the earliest lessons for children are those on geometrical forms. They should first have distinct ideas of the standard forms; and then be required to compare the forms of objects with these standard forms. Thus after obtaining the idea of a triangle, circle, ellipse, cylinder, etc., they may be led to see that some objects are triangular, circular, cylindrical, elliptical, etc. They should be taught the typical forms of leaves, and then be required to name the forms of leaves presented to them.

Compare Colors.—Lessons should be given to young pupils in the comparison of colors. Ideas of the standard colors should be presented, and pupils should then be required to judge of the color of objects presented to them. For such an exercise, small color cards may be used; worsteds, silks, etc., are also prepared for such lessons. A drill of this kind will enable a pupil to distinguish a large number of shades and varieties of color with great accuracy,—a knowledge which may be of practical value in many of the vocations of life.

Compare Lengths.—The judgment may be trained by the comparison of the length of objects. After giving an idea of the different units of length, these may be applied in judging of the lengths of different objects. Thus pupils may be required to tell the length and breadth of a room in feet, the height of the ceiling, the height of a man or a horse or a tree, the distance in yards or rods between two places, etc. They should also be given the units of surface, the square inch, square foot, square yard, etc., and be required to judge of the area of floors, the number of square yards in the walls of a room, the number of acres in a field, etc. The same may be done in respect to the measures of volume.

Compare Weights.—The judgment can be cultivated by the comparison of weights. We should first give an idea of the standard weights, ounce, pound, etc. Then the student should be required to "heft" some object, as a book, and give its weight in ounces, or some larger object, as a chair, and give its weight in pounds. There should also be an exercise in learning to judge of the weight of objects by sight. With practice one can learn to judge within a few pounds of the weight of a person or an animal. A drover will approximate very closely to the weight of a horse or an ox by looking at it.

Study of Mathematics.—One of the best exercises for the culture of the judgment is the study of mathematics. In mathematical reasoning, every step involves a comparison; and the solution of a problem or demonstration of a theorem is thus a constant exercise to the judgment. Mental arithmetic is especially useful in this respect to the youthful mind. Its relations are precise and definite, and each step in the process follows so naturally from the previous step or some fixed relation, that it is a constant pleasure to the student, and gives delightful as well as useful exercise to the judgment. Geometry also, with the classic precision of its relations, gives a classic finish to the acts of judgment.

Compare for Literary Figures.—Pupils should have exercises also in comparing for literary figures. They should be required to construct original similes, metaphors, personifications, etc. In order to do this, they should notice the poetical figures of literature, and try to imitate them. It will be well to have them study and imitate such figures as Horace Smith's

"Your voiceless lips, O flowers, are living preachers,
Each cup a pulpit, and each leaf a book,"

or Shakespeare's oft-quoted lines,

"But, look, the Morn, in russet mantle clad,
Walks o'er the dew of yon high eastern hill,"

or Longfellow's expressive figure,

"The tidal wave of deeper souls
Into our inmost being rolls."

The pupil who sees the analogies in these similes, metaphors, and personifications, can begin to create original figures for himself, and thus cultivate both his judgment and his taste for literary composition.

Games of Skill.—There are certain games of skill that are useful in cultivating the power of judgment. One of the best of these, for young persons, is that of draughts, or checkers. I have noticed a real growth in mental power by children who became interested in this game. For older minds, chess affords a delightful and most valuable exercise for the judgment. The solving of riddles, the guessing of conundrums, etc., also give pleasant and profitable exercise to the judgment of young people. Indeed, such exercises will do much more for the development of thought-power than much of the dull, dry, rote-teaching of our schools has done.

The Habit of Judgment.—It should be one of the leading objects of the culture of young people to lead them to acquire a habit of forming judgments. They should not only be led to see things, but to have opinions about things. They should be trained to see things in their relations, and to put these relations into definite propositions. Their ideas of objects should be worked up into thoughts concerning the objects. Those methods of teaching are best which tend to excite a thoughtful habit of mind that notices the similitudes and diversities of objects, and endeavors to read the thoughts which they embody and of which they are the symbols.

An Exercise in Opposition.—The application of the rules of Opposition of Judgments in deriving judgments from given judgments, is a valuable exercise to this faculty. Thus:

1. Illustrate the law of *universals* and *particulars* with the judgments, "All men are mortal," "Some men are angels."
2. Illustrate *contraries* with "All robins are birds," etc.
3. Illustrate *subcontraries* with "Some men are poets," etc.
4. Illustrate *contradictories* with "All men are bipeds," etc.

Another Exercise in Opposition.—The following is an interesting and practical exercise in the opposition of judgments:

1. If "All A is B" is true; show what follows for E, I, and O.
2. If "All A is B" is false; show what follows for E, I, and O.
3. If "No A is B" is true; show what follows for A, I, and O.
4. If "No A is B" is false; show what follows for A, I, and O.
5. If "Some A is B" is true; show what follows for A, E, and O.
6. If "Some A is B" is false; show what follows for A, E, and O.
7. If "Some A is not B" is true; show what follows for A, E, and I.
8. If "Some A is not B" is false; show what follows for A, E, and I.

An Exercise in Conversion.—The following is an interesting and practical exercise in the Conversion of Judgments:

1. All men are rational.
2. Some men are poets.
3. No men are quadrupeds.
4. Some minerals are stones.
5. Some men are virtuous.
6. No brute is responsible.
7. Some men are not responsible.
8. All triangles are polygons.

CHAPTER IX.

THE CULTURE OF REASONING.

REASONING is the last and the highest operation of the Understanding. There are two distinct forms of reasoning; Deductive Reasoning and Inductive Reasoning. Each of these two forms of reasoning may be cultivated by appropriate exercise. We shall therefore discuss the culture of reasoning under the two distinct heads; the Culture of Deductive Reasoning, and the Culture of Inductive Reasoning.

I. THE CULTURE OF DEDUCTIVE REASONING.

Deductive Reasoning, as already defined, is the process of deriving a particular truth from a general truth. It is a form of mental activity which operates early in the mind of the child; and is to be trained by appropriate exercises. Many of the branches of the school course are especially adapted to give exercise and culture to this power. The teacher should understand the relation of these studies to the mind, that he may give this culture consciously and intelligently. Some of the exercises and studies particularly suited to the culture of deductive reasoning, will therefore be mentioned.

1. STUDY OF MATHEMATICS.—The study, *par excellence*, for the culture of deductive reasoning, is mathematics. The several branches of mathematics present the purest examples of deductive reasoning; they are therefore pre-eminently fitted to give training to the power of deductive thought. They are also adapted to every stage of intellectual development, since they range from the simplest processes of mental arithmetic to the profoundest generalizations of calculus. The pupil should, at an early age, begin

the simple analyses of arithmetic; from this he should pass to the more concise and abstract reasoning of algebra, which, in its first steps, is similar to the reasoning of arithmetic. Following the elements of algebra, or in connection with it, he should take up the science of geometry, in which he will become acquainted with the more formal methods of syllogistic reasoning.

Mental Arithmetic.—Mental arithmetic is especially adapted to give culture to the reasoning power of the young mind. By mental arithmetic, we mean not the mere working of problems without slate or pencil, but that system of arithmetical analysis which is found developed in a good work on the subject. Mental arithmetic is a system of practical logic in its simplest form; every step is a judgment direct or indirect, and the entire subject is permeated with the spirit of logic. Its processes are purely analytic, and it thus trains the mind to the most rigid analysis. Every truth is bound to some other truth by the thread of related thought; and the mind of the pupil acquires the habit of following a chain of logically-connected judgments until it reaches a satisfactory conclusion. To give exercise to the reasoning powers of the child, mental arithmetic may be placed at the head of the list of studies of the primary school.

Sharpens the Mind.—Mental arithmetic sharpens and strengthens the powers of thought. The system of rigid analysis gives point and penetrating power to the mind, and enables it to pierce a subject to its core and discover its elements. In this respect, mental arithmetic is a sort of mental whetstone, which gives edge and keenness to the mind. Old Robert Recorde called his work on arithmetic the "Whetstone of Witte;" had he lived until the era of mental arithmetic, he would have seen the full meaning of his words, for the method of analysis found in mental arithmetic is indeed a whetstone of wit, a sharpener of the mental faculties. Mental arithmetic is a system of mental gymnastics; through it the mind grows strong and tough, taking hold of difficulties with a will, laughing at obstacles, and rejoicing in the investigation of the intricate and profound.

Study of Written Arithmetic.—The study of written arithmetic leads the mind to a higher plane of deductive thought. While the reasoning in mental arithmetic is purely analytic, the reasoning of written arithmetic is more synthetic and demonstrative in its nature. Thus many subjects which in mental arithmetic are treated by pure analysis, in written arithmetic are treated by demonstration. In mental arithmetic we treat all the various cases of Fractions by analysis; while in written arithmetic we may first establish a few general principles, and then derive all the rules for the several cases by deduction from these principles. Many subjects in written arithmetic are purely deductive and demonstrative in their nature, as Proportion, Progression, Evolution, etc. The study of written arithmetic thus lifts the mind up into a higher plane of deductive thought, and gives a culture adapted to the advancing maturity of the mind. When properly taught, not as a collection of rules for arbitrary results, but as a system of logical processes, it affords the mind a delightful and valuable exercise in deductive thought.

Study of Algebra.—Algebra is also a valuable study in training the power of deductive reasoning. In its elementary ideas and processes, it has its origin in arithmetic, and flows out of it; and its spirit and methods are essentially deductive. Its methods of calculation are analytic and demonstrative; and it rises into the sphere of generalization, which gives a breadth and reach of mind that we cannot acquire in arithmetic. This spirit of generalization lies at the basis of the science, and has given us the profound thinkers in astronomy and physics, such as Newton and La Place. The interpretation of these general formulas, as applied to particular cases, so valuable in the investigations of the physical sciences, is also an excellent exercise for the development of the thought-powers of the student.

Study of Geometry.—In giving discipline to the power of reasoning, geometry has been placed high in the list of thought studies. Geometry is purely a deductive science. It begins with definite ideas expressed in strictly logical definitions, has its fundamental truths or axioms given by intuition, and with these as a basis, proceeds by the logic of deduction to derive all the other truths of the science. It is regarded as the most perfect model of a deductive science, and is the type and model of all science.

Invaluable Discipline.—As a study for the discipline of the power of thought, geometry is invaluable. It is the perfection of logic, and excels in training the mind to logical habits of thinking. In this respect it is superior to the study of logic itself, for it is logic embodied in the science of tangible form. While logic makes us familiar with the principles of reasoning, geometry trains the mind to the habit of reasoning. No study is better adapted to make close and accurate thinkers. Euclid has done more to develop the logical faculty of the world than any book ever written. It has been the inspiring influence of scientific thought for ages, and is one of the corner-stones of modern civilization.

A Test of Power.—Geometry not only gives mental power, but is a test of mental power. The boy who cannot readily master his geometry will never attain to much in the domain of thought. He may have a fine poetic sense that will make a writer or an orator; but he can never reach any eminence in scientific thought or philosophic opinion. All the great geniuses in the realm of science, as far as known, had fine mathematical abilities. So valuable is geometry as a discipline that many lawyers and preachers review their geometry every year in order to keep the mind drilled to logical habits of thinking.

Subjects for Original Thought.—In these branches of mathematics, the student should have problems and theorems for original thought. Problems for solution are usually given in arithmetic and algebra; in geometry, however, the practice has been to present only theorems demonstrated in the text-book, but no undemonstrated theorems to train the student to reason independently of the text-book. This is regarded as a serious defect in the methods of teaching geometry. There should be a large number of theorems for original thought; and the student should be required to discover the demonstrations for himself. In this way he may be able not only, as Cyril said of the girl-students, to "hunt old trails," but also "to invent" processes of reasoning for himself. He will become an original thinker in the domain of quantity, and acquire that acuteness of insight and independence of thought that characterize the profound thinker.

II. STUDY OF LANGUAGE.—The study of language is adapted to give culture to the power of thought. This is apparent from the fact that language is the expression of thought. Language is the mirror of the mind; in it are revealed the processes of thought; and looking in this mirror, the mind may become familiar with its own workings and imitate the methods which it perceives. Besides this, the ordinary methods of teaching language are largely deductive in their character, and the mind is thus trained to deductive processes in its study. The value of a few of the branches in this respect will be briefly noticed.

Study of Grammar.—The study of grammar, if properly presented as a thought-study, and not as a thing to cram into the memory, affords a valuable exercise in deductive thinking. With the young pupil, the principles should be reached inductively; but having attained these principles, the study is mainly deductive in its character. The application of the rules and principles to actual expression is a process of deduction. The correction of false syntax is purely deductive in its character; we reason from the principle to the special case that we are correcting. So with parsing and analysis; they are purely deductive processes, and are valuable in training the mind to reason from general principles to particulars. They are valuable as means of culture also from the fact that they can be so constantly used, affording a daily drill in practical forms of logical thought and expression. Many of the distinctions of grammar, also, are refined and subtle, requiring a searching analysis and a philosophic insight into the subject, which cannot fail to afford a most admirable discipline. For the culture of the power of deductive reasoning, we should therefore give high rank to the study of grammar, a rank next to arithmetic on the list of the common school branches.

Study of Rhetoric.—The study of rhetoric is also adapted to give culture to the faculty of deductive thought. Many of the principles of rhetoric, including the laws of taste, are the result of intuition; and their application to the criticism and construction of discourse, is a deductive exercise. In the application of the principles that may have been reached by induction, the mind of the student passes from the general principle to particulars, and is thus proceeding deductively. The process of invention, which most writers include in the subject of rhetoric, gives direct exercise to this power; for the evolution of thought on any subject, usually proceeds from generals to particulars, rather than in the opposite direction. In the unfolding of any subject, we usually think in the light of general principles and intuitions of the higher reason. Though we may discover inductively, we present our discoveries in the reverse order of their origin; and the invention of discourse is usually a movement of thought from generals to particulars.

Study of Latin and Greek.—Even the study of Latin and Greek, though it may not be generally acknowledged, is valuable for the training of the mind in deductive processes. The rules of construction are fixed in the memory as general principles, and the language is interpreted in the light of these principles. The general forms for number, case, and tense are learned, and then applied to the particular words of the text in determining their relation and dependence. Besides, the nice sense of discrimination cultivated by the comparison and selection of words in making the translation, not only exercises the judgment, but exercises it under the control of general principles of taste; and the process is thus closely related to deductive reasoning. The study, too, cultivates those habits of accuracy and definiteness that are so valuable in mental discipline, and which the deductive sciences are especially adapted to afford.

III. STUDY OF THE METAPHYSICAL SCIENCES.—The power of deductive thought receives some of its highest culture from the study of those branches which may be called the metaphysical sciences. These branches are Psychology, Logic, Ethics, Æsthetics, Political Economy, International Law, Natural and Revealed Theology, etc. These sciences deal with principles and their application, and are thus deductive in their character. They discuss the profoundest questions of human thought and human life, and lift the mind into that plane of truth by which its survey is broad and comprehensive, and from which it can look down with intelligence upon the facts that have their source in and flow from these principles.

Study of Psychology.—Among the first in the list for the culture of this higher thought, we place Psychology, the science of the human mind. Though some of its principles seem to be derived by a generalization of particulars, yet in its spirit and methods it is deductive. It trains the mind to habits of reflective thought, and enables it to grasp abstract and general principles. It cultivates that nice sense of discrimination so necessary to scientific investigation, and gives the power of penetrative and philosophic insight. It trains the mind to seize upon the recondite and elusive objects of thought and feeling, and to trace its way along those spiritual paths that lead to the deeper mysteries of nature. By it we not only reach truths, but we go on to search for the source and beginning of truth; and, grasping fundamental principles, we are enabled to follow them to their grandest conclusions.

In the study of the human mind we reach the type of the Divine mind, and thus rise from the study of the natural to that of the spiritual. Here we attain the grand conceptions of Space, Time, Cause, and Identity, and those grander conceptions, the True, the Beautiful, and the Good. Here we meet with the grandest facts and problems of the human soul,—the moral nature, the freedom of the will, and human accountability; and from these we naturally rise to the contemplation of Immortality, God, and Heaven.

Study of Logic.—The study of Logic will aid in the development of the power of deductive reasoning. It does this first by showing the method by which we reason. To know how we reason, to see the laws which govern the reasoning process, to analyze the syllogism and see its conformity to the laws of thought, is not only an exercise of reasoning, but gives that knowledge of the process that will be both a stimulus and a guide to thought. No one can trace the principles and processes of thought without receiving thereby an impetus to thought. In the second place, the study of logic is probably even more valuable because it gives practice in deductive thinking. This, perhaps, is its principal value, since the mind reasons instinctively without knowing how it reasons. One can think without the knowledge of the science of thinking, just as one can use language correctly without a knowledge of grammar; yet as the study of grammar improves one's speech, so the study of logic cannot but improve one's thought.

Application of Logic.—The application of the principles of logic to practical exercises affords an excellent means of training the power of thought. These exercises may consist of pointing out the principles in processes of reasoning, and also of correcting errors in the forms of reasoning. The former is like parsing and analysis in grammar; the latter is like the correction of false syntax: and as these exercises in grammar cultivate the power of using correct language, so will the corresponding exercises in logic train the mind to accurate habits of thought. We recommend, therefore, extensive practice in what is called "logical praxis," or the application of the laws and principles of the science to thought as expressed in language.

Correction of Fallacies.—This practice in the correction of errors of reasoning will be found of especial value in the culture of this faculty. It should embrace the correction of the forms of reasoning, and the pointing out of the fallacies in arguments. It should also include the detection of such errors as lie in the matter of reasoning; as, *begging the question*, *reasoning in a circle*, etc. A drill in the analysis of arguments for the detection and correction of such errors will make the mind familiar with the correct processes, and teach it to be careful to avoid those errors into which even practiced thinkers are liable to fall.

Reading Argumentative Discourses.—The reading of argumentative discourses is also recommended for this culture. Such discourses usually deal with general principles and their application, and are thus deductive in their nature. They are, too, the productions of the great thinkers; and the mind will learn to think by following the trains of thought of these superior minds. The reading of such productions as Calhoun's discourses on government, Webster's defense of the Constitution, Mill on the principles of civil government, Woolsey on international law, etc., will give breadth and philosophical grasp to the mind and lift it up to the plane of high and commanding mental activity. To commune with the great thinkers is to have our minds illumined by the light of those rare souls whose thoughts mould their own and coming ages.

Reading Philosophy.—The careful reading of philosophy will be found valuable in this thought-culture. However the philosophers may have reached their principles, their presentations of truth are mainly deductive in spirit and in form. They think and speak in the light of fundamental principles; and filling the soul with grand conceptions of truth, they inspire us to make our deductions from such principles. The lofty discussions of Plato, the keen analysis of Aristotle, the transcendental philosophy of the German thinkers, and the practical speculations of the thinkers of England,—all lift the soul into an atmosphere of pure thought from which it may draw inspiration for its own speculations.

Reading Philosophic Essayists.—The philosophic essayists, also, like Carlyle and Emerson, though not, properly speaking, philosophers, are full of suggestive thought. They are like the seers of old, rare prophetic souls who have an insight into truths. They seem to catch glimpses of the new stars of truth that are to shine in the heavens before they are revealed to the common mind; and they give to our minds some of the afflatus of their own spirits. They have a wonderful power to stimulate to thinking. Emerson, for instance, not only gives you thoughts, but sets the mind to thinking for itself; he, as it were, inoculates the mind with his thought so that it breaks out into thoughts of its own.

By Deductive Thinking.—Besides the culture afforded by study and reading, the power of deductive thought is cultivated by deductive thinking. The application of general principles to the facts and business of life is an exercise of deductive thought; and such a consideration of practical questions trains to habits of deductive reasoning. All men, in every avocation and profession, are continually reasoning from general rules or maxims, and are thus exercising and cultivating the power of deductive thinking.

IV. AVOID FALLACIES.—In order to improve in deductive thinking, care should be taken to avoid those errors in reasoning known as *fallacies.* The principal fallacies of deduction may be embraced under two classes; first, those of an *unwarranted assumption of premises*, and second, those of an *irrelevant conclusion.* The principal fallacy of the first class is that known as *Begging the Question;* the principal one of the second class is *Arguing to the Wrong Point.* The former includes *Reasoning in a Circle;* the latter includes a variety of forms, such as *Shifting Ground, Asking Questions, Part Proof, Argumentum ad Populum*, etc.

Begging the Question.—The fallacy of Begging the Question, called *petitio principii*, consists in the unwarrantable assumption of the thing to be proved, or the assumption of that by which it is to be proved, without proving it. Thus to assume without proof that a protective tariff will be of advantage to the country, or to argue that protection will promote public wealth without showing it, is to beg the question. So to assume that the Bible is divine without proving it, or to argue that it is worthy of belief because it is inspired, without proving its inspiration, is a fallacy of this kind. The usual form of this fallacy, and the most deceptive, is that of *reasoning in a circle.*

Reasoning in a Circle.—The fallacy of Reasoning in a Circle, called *argumentum in circulo*, is one in which the conclusion is virtually used in order to prove the premise. Thus, to argue that a party is good because it advocates good measures, and that certain measures are good because they are advocated by so excellent a party, is to reason in a circle. So when persons argue that their church is the true one, because it was established by God, and then argue that since it is the true church, it must have been founded by God, they fall into this fallacy. To argue that "the will is determined by the strongest motive" and define the strongest motive as that which influences the will, is to revolve in a circle of thought and prove nothing. Plato commits this error when he argues the immortality of the soul from its simplicity, and afterwards attempts to prove its simplicity from its immortality. It needs care to avoid this error, for it is surprising how easily one falls into it.

Fallacy of Shifting Ground.—This fallacy consists in pretending to prove one thing, and in really proving or deciding upon another merely associated with it. Thus it is a common defence of criminals to allege that they were insane, and to attempt to prove this by showing that they acted very unreasonably. So to try to convince a jury that a man is guilty of a certain crime by dwelling upon the enormity of the offence, is also a fallacy of this class. Bacon is charged with treachery to his friend the Earl of Essex; and the writer dwells powerfully upon the evil of ingratitude in a great man, instead of proving the alleged facts.

Fallacy of Questions.—The fallacy of Questions consists in asking two or more closely related questions, applying the answer of one to the other. This is a low trick sometimes employed by lawyers in the examination of witnesses, with the view of puzzling them or turning their answers to a wrong account. Thus, "You were swayed by the love of money in the transaction?" (meaning exclusively), to which the witness answers "Yes" (meaning in part). Another question follows: "In being swayed by money you acted selfishly in the transaction?" The utilitarian puts to us the questions: "You deny that virtue consists in utility?" "Yes." "Then you deny that utility is a good thing." A question is often double, so that either a "yes" or a "no" will lead to a fallacious inference; in which case the fallacy will be avoided by answering each part separately.

Fallacy of Part Proof.—The fallacy of proving part of the question often misleads the judgment of men. Thus, if a man is charged with murder, it is a fallacy to attempt to prove the charge by merely showing that he killed a man. So also it is a fallacy to conclude that a man is a liar because he is proved to have made a misstatement, which may have been entirely unintentional.

Argumentum ad Populum.—The *argumentum ad populum* is that in which there is an appeal to public opinion, or to passion and prejudice rather than to reason. It does not prove anything, but may lead the judgment or actions of the people, and is therefore a fallacy. Such an argument is not improper when the conclusion arrived at is believed to be a correct one; but it is illegitimate when the conclusion is wrong in itself, or when he who urges it does so hypocritically. Considered as an argument, it is always a fallacy. and should be used with great care and an upright conscience.

Argumentum ad Verecundiam.—The *argumentum ad verecundiam* consists in an appeal to the feeling of reverence for certain persons or objects, as to antiquity, the opinions of ancestors, etc., instead of proving the point at issue. Thus the scholastics employed the maxim, "It is foolish to affirm that Aristotle erred;" and in the same manner the conservative argues against any improvement in society or the state by referring to the opinions of the fathers of the republic. The argument may be used to prevent any rash disturbance of the social order; but it is in every case a fallacy.

Argumentum ad Ignorantiam.—The argument called *ad ignorantiam* is addressed to the ignorance of men. It consists in assuming that a certain position is correct, because an adversary cannot show the contrary. Thus some would have us believe in animal magnetism or spiritualism, because we cannot explain their phenomena. To argue that there is no material world because we cannot explain how the mind knows it to exist, is the celebrated fallacy of Hume in philosophy. The fact that we cannot find a needle in a haystack is no proof that it is not there.

Argumentum ad Hominem.—The argument called *ad hominem* is an appeal to the practice, principles, or professions of an opponent to confirm our position or to overthrow his. This argument is *good against an opponent*, and may silence him; but it may *not be good against the views* which he advocates. As soon as he renounces such opinions or practices, the argument ceases to be of value against him. Christ often used this method to silence the cavils of the Jews, as in Matt. xxii. 41–45. This fallacy is especially objectionable when we take advantage of premises which those with whom we argue allow, but which we ourselves do not believe. It is legitimate only when we wish to make our opponents doubt their premises by seeing the consequences to which they lead, or to silence an unreasonable and cavilling adversary.

In Conclusion.—In conclusion we remark that care to avoid these fallacies, combined with the reading of works of philosophy, the study of the metaphysical sciences, the study of logic and the deductive sciences, the proper study of mathematics and language, and the practice of deductive thought, will train the mind to clear, broad, and comprehensive deductive reasoning.

II. Culture of Inductive Reasoning.

Inductive Reasoning is the process of deriving a general truth from particular truths. It is one of the earliest forms of thinking manifested by the young mind; and is developed by appropriate exercise and training. This exercise and training may be given in four different ways; by the inductive teaching of several of the elementary branches of study; by the formal study of the material sciences; by original investigations in these sciences; and by being careful to avoid the fallacies of induction.

I. Inductive Method of Teaching.—The power of inductive reasoning may be cultivated by the inductive method of teaching several of the elementary branches. The inductive method of teaching is that form of teaching which passes from particulars to generals. By it the pupil may be led from particular ideas to general ideas, or from particular truths to general truths. The former gives culture to generalization, which is in the spirit of inductive thought; the latter requires inductive reasoning on the part of the pupil, which gives direct culture to inductive thinking. The principal of the school branches for the inductive method, are Object Lessons, Geography, Grammar, and Arithmetic.

In Object Lessons.—Object Lessons deal with objects and their properties, and these constitute the foundation of the inductive sciences. A system of object lessons is especially adapted to train the power of observation, which lies at the basis of the development of the inductive sciences. An object lesson requires a pupil to analyze an object into its parts, to look at its details; and thus leads him to acquire the habit of close, accurate, and analytical perception. The pupil may also be led to classify objects, which is a stage of inductive science. He may also be led to inquire after the causes of certain facts and appearances of the objects, which is induction proper. A system of object lessons, in the hands of an intelligent teacher, may thus lead a pupil in the first steps of inductive thought and science.

In Teaching Geography.—Geography is a natural science and is developed inductively; and when properly taught, gives exercise in inductive thought. In this branch, a pupil should first see particular examples of the different divisions of land and water,—continents, capes, peninsulas, islands, oceans, gulfs, bays, etc.,—and from these be led up to the general notion of them and their definitions. So also the particular rivers and mountains should be first presented, and the pupil be led to unite them into river-systems and mountain-chains, thus proceeding from the particular to the general. So far as geography treats of causes and laws, they should follow the facts which depend upon them. Taught in this way, geography cultivates inductive thinking; taught, however, by the ordinary method of definition and description, very little thought is awakened, and what there is, is in the spirit of deduction rather than induction.

In Teaching Arithmetic.—Even arithmetic, which is a deductive science, may be so taught as to train the faculty of inductive thought. The earliest instruction in arithmetic should be presented concretely and inductively. The mind should proceed from objects to numbers, from ideas of processes to their formal statement, from the analysis of particular examples to the general rules, from the use of a principle in some special case that gives rise to it, to its formal announcement in a general proposition. Thus the pupil may be made familiar with the process of uniting and separating numbers before he learns to call it addition and subtraction; he may analyze special examples in the different cases of fractions, and then derive a rule from the steps of the analysis; and this is inductive in its character. So, in common divisor, common multiple, evolution, etc., the principle may be first presented in the special case of a problem being solved, from which the mind may be led to its formal statement. Subsequently, the principles may be demonstrated by deductive processes, and the rules derived from general principles.

In Teaching Algebra.—Some culture of inductive thought may be given, even in the study of algebra. We may pass from the particular solutions of arithmetic to the more general solutions with algebraic symbols. The transition from figures to letters, from numerical exponents to literal exponents, and the generalization of particular processes, are all in the spirit of inductive thought. Some of the methods of operation and general formulas may also be obtained by inductive methods of reasoning. Newton discovered his celebrated "binomial formula" by induction; he left no deductive demonstration of it and probably never discovered one. Fermat's formula for prime numbers, $2^m + 1$, when m is a term in the series 1, 2, 4, 8, etc., which Euler showed is incorrect when m equals 32, was derived by induction. The method of "mathematical induction," often used in algebra, is more deductive in its nature than inductive, and does not afford culture to inductive reasoning; and most of the reasoning of algebra trains to deductive rather than inductive thought.

In Teaching Grammar.—Grammar is largely a deductive science, but its elements may be taught inductively; and when thus taught, will give culture to inductive reasoning. Thus, we may first present individual examples of nouns, and then lead to the general idea of a noun and to its definition; and so with all the parts of speech. So also we may lead the pupil to discover the properties of number, case, etc., from language, and to derive the rules of inflection from individual cases of inflection. The rules of syntax may also be first presented in special cases, and the mind be led to grasp the general from the particular. Such teaching is in the spirit of induction, and trains to inductive habits of thought. Other school studies may be presented in a like manner, and when so taught do something for the culture of inductive reasoning.

II. SEVERAL SCHOOL STUDIES.—Besides the method of inductive teaching, there are several school studies that give special culture to inductive thought. These are the branches which belong to the inductive sciences; and if studied in accordance with their spirit, give direct culture to the power of inductive reasoning. Among these branches are Physiology, Natural Philosophy, Astronomy, Chemistry, and Natural History. A few remarks on each of these studies will show their use in affording the culture we are considering.

Study of Physiology.—The science of physiology treats mainly of facts. There are few general principles reached, and the inquiry for causes is somewhat limited. The study of this branch trains the pupil to close observation; he is taught to dissect, to observe, and to gather facts. This does not require inductive reasoning, but it is the first stage of the inductive sciences, and thus imparts somewhat of the spirit of these sciences. The functions of the different organs lie in the sphere of cause and effect, and when laws are reached, they are reached inductively; and the ascertaining of these laws and causes gives direct culture to inductive thought.

Study of Natural Philosophy.—Natural philosophy is one of the finest types of a purely inductive science, as geometry is of a deductive science. It treats of facts and phenomena, with their laws and causes. When studied according to its own genius, as it should be, it is one of the very best studies for the training of inductive thought. It requires the observation of facts and phenomena, and also experiment to ascertain facts not presented by things in their usual relations. From these the student passes to the inquiry after the causes of facts and phenomena, and the laws which control them. Thus, from the *facts* of falling bodies, it rises to the *cause, attraction of gravitation*, and from this to the *law* that the *distances are proportional to the squares of the times.* Studied in this manner, it gives admirable culture to inductive thought; while taught, as it so often is, by the definitions and discussions of the text-book, it not only gives no culture to induction, but is almost useless as a matter of discipline.

Study of Astronomy.—The science of astronomy is also inductive in its character. It begins with the facts and phenomena of the heavenly bodies, and proceeds to ascertain the causes which produce the various phenomena and the laws which govern them. The study should begin with the observation of the sun, moon, and stars themselves; or with the observation of the facts. From these the student should be led to the inquiry after the causes which produce these facts and phenomena, and the laws by which these causes operate. These causes are so recondite in their nature, and require such a breadth of thought, that the student cannot be led to them, but is obliged to accept them as already discovered. So also he must learn the laws as determined by the great minds who have discovered them, rather than discover them himself. This is the deductive method rather than the inductive, and trains to deductive methods of thinking. Besides, mathematics enters very largely, almost entirely, into the development of these higher investigations, which makes the reasoning strictly deductive, and cultivates that form of reasoning.

Study of Chemistry.—Chemistry is mainly a science of experiment, as physiology is of observation. The student is required to become familiar with the different elements, their properties, their equivalents of combination, the results of such combination, the methods of analysis of compounds, the tests for and detection of substances, etc. There is but little theory, or investigation of causes or laws. Most of the theories are already prepared for us, and the student has only to learn them and attain skill in their application. The prominence of experiment in the study, and the necessity of drawing inferences from facts, however, render it an excellent study for the culture of the method of inductive investigation.

Natural History.—The three branches of natural history, Botany, Zoölogy, and Mineralogy, treat mainly of facts and their classification. These train the mind to the close observation of facts and to generalizations from these facts, but not to inductive reasoning. Generalization, however, the passing from particular objects to general ideas, though not inductive reasoning, is in the spirit of induction; and the study of these branches is thus of value in the culture of inductive thought. Besides, there are a few general principles reached in these branches, and now and then an inquiry after a cause; and these afford a more direct culture of inductive thought.

III. INDUCTIVE THINKING.—Besides the culture afforded by the inductive teaching of several of the school studies and the formal study of several of the inductive sciences, a course in inductive investigation is indispensable for the high culture of the power of inductive thought. In fact, more can be done for the culture of inductive reasoning outside of books than in connection with them, for books, as a rule, announce the results of induction rather than take the mind through the process of induction. This method can be applied to every department of nature and society. The business man, as well as the professional man, the merchant, the doctor, the statesman, every one who wishes to reach the laws and causes which are operating in his own department of labor, may use this faculty in passing from facts to their causes and laws.

Order of Investigation.—For this investigation the several steps or stages are as follows: First, they must seek for *facts* and *phenomena.* These are to be gained by observation, experiment, and testimony. Second, they are to ascertain the *causes* of these facts and the *laws* which govern them. They will be aided in this by *hypothesis* and *theory.* These hypotheses are often reached by *anticipation,* and are carefully *verified.* A few remarks on each one of these subjects will make a little clearer what is here meant.

Inquiry for Facts.—Every man should be a good observer; he should see what is going on around him; he should be a fact-gatherer. He should observe the facts both of nature and human nature. He should notice what is going on in society, the changes in thought and institutions, the progress in art and invention, and the fluctuations in public sentiment and political parties. As a business man, he should observe the facts of trade, the growing demand for new articles of commerce, the relation of supply to demand of any one article, etc. As such he becomes a man of intelligence, and has the material with which to form his inductive inferences; and this will enable him to make his life a practical success in the business and professional world.

Experiment for Facts.—Another method of gaining facts is that of experiment, which is practicable in many departments of life. If a man is engaged in farming or some similar avocation, he can supplement his observation by experiments. He can cross his strawberries or grapes, try the effects of different soils on his apples or pears, experiment with different methods of feeding his cattle, test the efficiency of new fertilizers, etc. As a merchant, he can try the popularity of a new line of goods; as a manufacturer, test some new article for the household, etc. In this way, he will not only gain valuable information, but give culture to the power which obtains material for inductive reasoning.

Inquire for Causes.—The mind should accustom itself to the inquiry after the causes of things. Every fact and phenomenon is the result of some agency; and the mind should acquire the habit of trying to see the cause which stands behind the fact and gives rise to it. We thus rise from facts into the domain of philosophy; and learn to previse and predict the future. The facts as caused become themselves the cause of other facts, and the man who can foresee and foretell their result, becomes a practical prophet among his fellow-men. By this grasp of the future, fortunes are made, political success is assured, the tide of public thought is anticipated, and the possessor of this power raised to positions of honor and influence. The successful men of the day in business, are those who, with a broad grasp of cause and effect, could anticipate the coming events and be prepared to take advantage of them.

Use of Hypotheses.—In thus ascertaining the causes, it will often be necessary to use hypotheses. These hypotheses are not a combination of all the facts, but the mind leaps, by a kind of inspiration, from a few facts to the cause which explains or produces them. To do this we need to cultivate a lively fancy, a quickness of suggestion, a philosophic foresight that catches a glimpse of the idea through the form, or sees the law or cause standing back of the fact. Care must be used to verify these flashes of fancy or bright suggestions. No hypothesis should be accepted as true until the facts are so numerous that there can be no doubt of its being proved. If facts are found that it will not account for, another supposition must be made, and so on, until one is obtained that will account for the facts. Remember Whewell's maxim that "to try wrong guesses is with most persons the only way to hit upon right ones."

IV. CARE TO AVOID FALLACIES.—In these investigations, great care should be taken to avoid those illusive inferences called *fallacies*, into which men are liable to fall. The most important of these are those relating to the ascertaining of the causes of facts. Mistakes are also made in obtaining the facts, which have been called *fallacies of observation*. A few remarks will be made on each of these two classes of fallacies,—*fallacies of observation* and *fallacies of inference*.

Fallacies of Observation.—We should be cautious, in obtaining our facts, to avoid the fallacies of observation. These are of several classes, the most important of which are the following: first, *inexact observation*, or the careless observation of facts; second, *partial observation*, or gaining an incomplete knowledge of facts; third, the *neglect of exceptions and contradictory facts;* fourth, the *assumption of facts* which are not facts; fifth, the *mixing of illegitimate inferences* with the facts. Special care should be taken to avoid all of these fallacies, as any mistake in observation will vitiate the general conclusions which we derive from them.

Mistaking the Cause.—The fallacy of mistaking the cause, called *non causa pro causa*, is that in which something not a cause is assumed to be a cause. Thus Newton fell into this error when he explained the phenomena of light by the supposition of corpuscles. So the supposition that heat is a fluid, so long taught in natural philosophy, was a fallacy of this kind. There are several forms of this fallacy, the principal of which we shall mention.

Antecedent for the Cause.—This fallacy, called *post hoc, ergo propter hoc,* consists in mistaking a mere antecedent for a cause. Thus, if we infer that because an eclipse of the moon is followed by a heavy rain, that the former is the cause of the latter, it will be a fallacy of mistaking the antecedent for the cause. In ancient times, people who noticed that a remarkable meteor in the sky was followed by some national calamity, or a conjunction of planets was followed by a royal marriage with far-reaching political consequences, superstitiously concluded that the events were related as cause and effect. So to infer, because a country flourished under one administration and suffered from a financial panic under another administration, that the administration was the cause of the result, is to be guilty of this fallacy.

Taking the Sign for the Cause.—The fallacy of mistaking the sign for the cause is a common one with untrained thinkers. Thus a physician who, on seeing pimples on the face, attempts to remove them by an application, instead of endeavoring to remove the cause, falls into this error. A statesman, who contents himself with punishing the crimes which proceed from ignorance, without trying to remove the moral causes from which crime springs, is guilty of this fallacy. Buckle falls into this error by tracing all progress in civilization to intellectual activity, forgetting that the intellectual activity of Europe was due to moral causes, and was thus only a sign or effect of the real cause.

Fallacy of Analogy.—The fallacy of analogy, called *non tale pro tali*, consists in assuming a resemblance where there is no resemblance. Thus to assume that because the wheat crop is unusually large, we shall have a fine corn crop; or because the season is favorable to peaches, apples will be abundant,—is to fall into this error. The trite argument against Christianity, that because all other religions are a delusion, Christianity must be a delusion, is a fallacy of this kind, which should not delude any one with ordinary reasoning powers. It is a fallacy also to carry an analogy too far; as to infer from the parable of the praying of the importunate woman that God resembles the unjust judge.

INTUITION.

CHAPTER I.

THE NATURE OF INTUITION.

INTUITION, or the REASON, is that power of the mind which gives us ideas and truths not furnished by the senses, nor elaborated by the understanding. Its products are called *primary ideas* and *primary truths.* The Primary Ideas are those of Space, Time, Cause, Identity, the True, the Beautiful, the Good, etc. The Primary Truths are all self-evident and necessary truths, as the axioms of mathematics and logic.

Names of the Power.—This power is called Intuitive, because the products spring up immediately in the mind upon the presentation of the proper occasion. The ideas are not the products of sensation and perception, but arise in the mind on the occasion of sensible experience. Its truths are not derived by a process of reasoning, but arise spontaneously in the mind when the subjects to which they relate are contemplated. Hamilton calls it the Regulative Power, because it regulates and controls the activity of the other faculties. Dr. Hickok and some others, following the example of Kant, call it the Reason, a term not inappropriate, since it is the power or element of the mind which seems to stamp it with rationality.

In What Sense a Faculty.—The power of intuition is not to be regarded as a faculty, in the same sense as the other activities of the mind. It is not so much an activity as a spontaneity, for its products arise spontaneously in the mind on the proper occasion without any special effort or action. From this fact Hamilton speaks of it as the complement of certain fundamental laws, though it is doubtful whether this characterizes it properly. It seems to correspond to what was known to the Greek philosophy as the *nous* (νοῦς), *the intelligence.* The Scotch philosophers have used the term *common sense* to name this power; but this term is also objectionable. Kant called it the Reason, and this term has been quite largely adopted, though it is liable to become confounded with reasoning. Several other terms have been suggested, but none seems more suitable than Intuition.

Nature of the Faculty.—Intuition or the Reason is an intuitive source of knowledge. It has an eye for truth which transcends the truths of sense and reasoning. Perception derives its ideas through the senses; Intuition is the source of its own ideas. Reasoning obtains its conclusions from premises; Intuition obtains its truths from itself. It is thus a centre and source of knowing; a source and originator of knowledge. It also furnishes the laws by which each of the other faculties mature and complete their products; perception, memory, and reasoning depend for their results on the Reason. Besides this, it looks around and through the operations of the other faculties of knowing, and comprehends their activities and products. Moreover, it not only comprehends the activities of the other faculties, but comprehends its own activities and products. The faith in Reason is itself an intuition of the Reason. This statement of a true conception of the Reason will be more clearly seen as the subject is further discussed.

I. EXISTENCE OF THIS FACULTY.—The existence of such a faculty, though it has been questioned, is apparent from an examination of the source of its products. All of our *ideas* whose origin we have explained, are of three classes; *percepts*, *abstracts*, and *concepts*. These ideas have their primary source in perception,—abstraction and generalization depending on perception for the materials out of which they form ideas. If now we find that we have ideas not given by either of these three faculties, it is reasonable to infer that there must be some other faculty as the source of these ideas. Let us notice the origin of our so-called Primary Ideas.

Ideas not from Perception.—We remark first that these primary ideas are not given by perception. A percept has color or form, hardness or softness, or some one of the qualities of material things. A Primary Idea, as the idea of Space, has neither color, nor form, nor hardness, nor softness, nor any one of the qualities of matter; hence it is not a percept, or the product of perception. The same may be shown of Time, Cause, Identity, etc. Since they are not given by perception, they cannot be given by abstraction, since abstraction is the power of drawing a quality away from an object and making of it a distinct object of thought. If we do not perceive space, time, cause, etc., as qualities of bodies, we shall have no such ideas to draw away from objects.

Not by Generalization.—These ideas are not concepts, the products of generalization. In forming a general idea, we first perceive the qualities of objects, then abstract the qualities which are common, and then unite these common attributes into a general notion. Now, if we have no perception of these intuitive ideas as qualities of objects, we cannot abstract and unite such qualities into general notions. Besides this, the general notion is always equal to the sum of the common qualities united; the general idea equals the sum of the particulars and can never transcend this sum. Now, if our idea of space were made up of all the particular spaces which we may have experienced, it could be no larger than the sum of these particulars. But in reality our idea of space infinitely transcends the sum of all possibly experienced spaces. If we should put together all the spaces which we have seen occupied by matter, the result would fall far short of our idea of space.

Not by Judgment or Reasoning.—These intuitive ideas cannot be given by judgment and reasoning, since their office is to give us truths and not ideas. In a similar manner, we could show that none of these ideas—Time, Cause, Identity, the Beautiful, etc.—can be given by any of the faculties we have previously described. Hence there must be some other faculty which gives these ideas, and that faculty we call Intuition or the Reason. A similar argument can be given in respect to the origin of the intuitive truths.

Existence Generally Admitted.—The existence of such a faculty is now generally admitted by philosophers. Nearly all the great thinkers acknowledge that it is impossible to resolve all our knowledge into the product of experience. It is largely admitted that a certain complement of cognitions must be allowed as having their origin in the nature of the thinking principle itself. In the analysis of knowledge, it is seen that the mind itself supplies some of the elements; and there must be an attribute or faculty of the mind to supply them. There is a general agreement, also, as to the manner in which the ideas and truths of the faculty are formed.

Existence Questioned.—There is a certain class of thinkers, however, of whom Hobbes is a representative, who deny the existence of such a faculty. These thinkers endeavor to trace all of our ideas to sense as their ultimate source. Nearly all the thinkers known as scientists, belong to this school. Locke is claimed on both sides of the question. He states that all of our ideas arise from two sources, *sensation* and *reflection;* but he is not entirely clear in his explanation of the origin of those ideas which we call intuitive. It is thought by many, however, that he meant to teach that they are not derived from sense, but that they originate in the mind.

II. RELATION TO OTHER FACULTIES.—Intuition is intimately related to all the faculties of the mind. It seems to overlie and condition the activities of all the other faculties. It furnishes the laws by which they operate, and often adds elements to their products necessary for their completeness. This relation to the other faculties will be briefly pointed out.

To Perception.—Through the senses the perceptive power attains the idea of qualities. These qualities are necessarily conceived as belonging to something which we call *substance*, and this conception is furnished, not by perception, but by intuition. The perception of bodies as extended involves the idea of space; and this idea is furnished by the intuitive power. So in the perception of events; they are conceived to be united by the thread of time, which is also an intuitive idea. The cognition of an external world, as was explained under perception, involves an intuitive belief that resistance implies something which resists,—a truth furnished by intuition.

To the Memory.—Memory is also aided by intuition in completing its action. The memory, as previously explained, retains, recalls, represents, and recognizes. The element of recognition is an intuitive act, and is supposed to be due to intuition. It is not a result of comparison, for there is nothing with which to compare the representative object; and even if there were, some power would be needed to pronounce upon the result of the comparison and recognize the similarity or identity. The act of recognition is immediate and intuitive, and is an act of the Reason.

To the Imagination.—The imagination is also regulated in its action by the Reason. The products of this faculty are limited by the conditions of Space and Time, which are intuitive ideas. The principles of Beauty, after which the imagination forms its ideals, are also provided by the power of intuition. The ideals of beauty, those patterns of grace and excellence, that give shape to our imaginings, are largely due to this element of the mind. The highest flights of imagination are, as it were, inspired by and informed with a rational idea, which comes from this higher element of our rational nature.

To the Judgment.—The operation of intuition may also be noticed in an act of judgment. Judgment compares two objects of thought, and, perceiving their agreement or disagreement, unites them in a proposition. The truth of a proposition, however, is not seen by the judgment, but by a power higher than the judgment. The validity of a predication of one thing of another is perceived and tested by some power which gives the law of judgments. Even the ideas of similarity and difference are the products of intuition. The laws of derived judgments, as in the inferences of Opposition, are furnished by the reason. It is thus seen that intuition or reason regulates the acts of comparison in the exercise of the judgment.

To Reasoning.—Intuition also regulates the activity of the reasoning power. It furnishes all the laws of inference, those fundamental principles which control the reasoning process. Thus the simplest form of reasoning, as "A = B, but B = C, hence A = C," depends on the axiomatic truth that "Things which are equal to the same thing are equal to each other;" and this axiom is an intuitive truth. So the principle of deduction that "What is true of the whole is true of the parts," is furnished the reasoning faculty by a faculty which does not reason, namely, intuition. The cognition of the conclusiveness of the result is also an act of that power of reason that stands above the faculty of reasoning.

The Highest Faculty.—Intuition is thus the highest power of the mind; it stands at the head of and gives dignity and excellence to all the faculties. It is the crowning attribute of the intellect, the keystone of the spiritual arch, the overarching dome of the temple of the mind. It is in intuition that man becomes a rational and immortal being. Here arise the idea of duty, the cognition of obligation, and the belief in the infinite and absolute. Here faith has its origin; here hope appears to illumine the mind; and here glow those "primal duties" which "shine aloft like stars." As the blue sky arches over the earth dotted with golden stars, so arching over all the other faculties of the soul is the power of intuition, bright with the stars of faith in immortality, God, and heaven. Here appear those revelations of heavenly truth that have come to the world, trembling on the poet's lips or glowing in the seraphic fire of prophetic utterance. The revelation of divine truth in the Bible and by the Eternal Word, enter human consciousness through this overarching power of the Reason.

III. The Products of Intuition.—The Products of the Intuitive power are Primary Ideas and Primary Truths. An Idea, as has already been stated, is a mental product, which when expressed in words, does not give a proposition. A Primary Idea is one that is not given by the senses nor derived from other ideas. Primary ideas are notions which lie back of and condition all other ideas. Such ideas are Space, Time, Cause, Identity, the True, the Beautiful, the Good, etc.

PRIMARY TRUTHS.

I. Nature of Primary Truths.—A truth is a true thought; that is, it is a mental predication which is true. A Primary Truth is a truth which lies back of and conditions all other truths. It is the source of other truths; from it other truths are derived; while it is derived from and depends on no other truth. As examples of primary truths, we mention the axioms of mathematics and logic. Thus, "The whole is greater than any of its parts," and "Things that are equal to the same thing are equal to each other," are examples of primary truths.

Relation to Primary Ideas.—Every primary truth involves at least one primary idea; as "All bodies must occupy space," and "Every event must have a cause." Here Space and Cause, in these two truths, are primary ideas. As to which precedes in its appearance in the mind, the idea or the truth, there seems to be some difference of opinion among philosophers. Some maintain that the truth, as a law of thought, appears in consciousness, and that the idea is derived from the truth. This, however, is contrary to the usual order of the origin of ideas and thoughts; and it seems more reasonable to suppose that the thought follows the idea. Thus it would seem that we must first have the idea of a cause, before we can think the thought that "every event has a cause."

II. Existence of Primary Truths.—There is a certain class of thinkers who deny the existence of primary truths; we shall, therefore, endeavor to show that the mind does actually possess these truths. Under the Understanding it was seen that truths are given by two faculties,—judgment and reasoning. These are the only faculties considered previously to intuition, that give us truths. A judgment in the domain of sense is called a *particular truth*, as "Heat expands iron." From a synthesis of particular truths we reach, by induction, a *general truth;* as "Heat expands all metals." By deductive reasoning we reach a derived, or *deductive truth;* as "The sum of the angles of a triangle equals two right angles." By a comparison of ideas formed by abstraction and generalization we may also obtain truths, as "Man is an animal."

Truths Not Derived.—Now if we examine our knowledge further, we shall find some truths in the mind that are not judgments from sense, nor the comparison of *abstracts* or *concepts*, nor the result of either inductive or deductive reasoning. These truths lie back of and condition both judgment and reasoning, and thus control and regulate all thought. Take them away, and neither reasoning nor science is longer possible for want of a beginning or foundation. If we begin at some truth derived by reasoning and trace it backward towards its source, we shall at last arrive at a truth which depends on no other truth for its proof, but carries its evidence in itself. Such truths have some origin; they are not given by reasoning, for they are the basis of reasoning; they are not given by judgment in percepts, abstracts, or concepts, for they are independent of any of these notions. Such truths arise spontaneously in the mind; they are the products of the power of intuition.

Existence Admitted.—The existence of these first truths is admitted by a large class of philosophers. They have been designated, however, by quite a number of different appellations. Many writers, from Cicero downward, including Bacon, Descartes, Leibnitz, etc., called them *instinctive beliefs.* Kant and his disciples termed them *a priori* or *transcendental principles*, as they are prior to experience and transcend the knowledge furnished by the senses. Several of the Scotch writers have called them *principles of common sense*, though Stewart uses the expression *fundamental laws of human belief.*

III. Tests of Primary Truths.—Attempts have been made by different philosophers to determine certain criteria by which we may recognize primary truths and distinguish them from all other truths. The tests which are regarded as the most satisfactory are,—Self-evidence, Universality, Necessity, and Simplicity.

Self-evidence.—The first test of a primary truth is that it is *self-evident.* A primary truth does not admit of any proof; it carries its own evidence in itself. Thus the truth, "Things that are equal to the same thing are equal to each other," is seen to be true, by all who can comprehend it, as soon as it is uttered. When it is stated that "the moon revolves around the earth," we say, Yes, that may be so, but how do you know it is so? If true, it is a truth which demands proof before it can be accepted. But no one asks or needs to ask for the proof of an intuitive truth. No proof is possible, and a thousand demonstrations, if they were possible, would add no force to our conviction of its certainty. Primary truths carry within themselves their own vouchers for our confidence and acceptance.

Universality.—The second test of a primary truth is that it is *universal.* By this is meant that it is active in the minds of all mankind. It may not always be so clearly developed as to be presented in a formal proposition, but it is instinctively present and controls their action. In reflective minds these truths are distinctly formulated; and other minds immediately yield assent to them when they are enunciated and clearly grasped. There is a spontaneous conviction in the minds of all men of these truths. They operate practically in the minds of all, whether they are acknowledged formally or not. Nay more, even the skeptic, who may deny these principles in his philosophy, acts upon them in individual cases just as implicitly as the philosopher who admits them and defends them.

Necessity.—A third test of primary truths is that they are *necessary truths.* They are not only true, but they must be true, it is impossible for them to be untrue. We cannot conceive them to be untrue without an absurdity. The opposite of them is false and cannot be true. Thus the truth, "Space is necessary for the existence of material things," is not only true, but it is necessarily true; and the opposite, "Space is not necessary to the existence of matter," is false and nothing can make it true. We cannot conceive that Deity himself could make a primary truth untrue; that is, that he could make the sum of *three* and *two* equal to *seven*, or the "whole less than a part."

Simplicity.—Another test of a primary truth is its *simplicity.* If a truth can be resolved into some more fundamental truth which contains it or from which it may be derived, it is not a primitive truth. Thus the truth that "The sum of the angles of a triangle equals two right angles," though it is a necessary truth, is not a primary truth, as it will admit of derivation. A truth to be primary must not only be necessary and universal, but it must also be a fundamental truth. This test is expressed by the term *simplicity.* To these several tests Hamilton adds that of Incomprehensibility, by which he means that we comprehend that the thing is, but not *how* or *why* it is.

IV. REMARKS ON PRIMARY TRUTHS.—No author has attempted to give a full list of primary truths; indeed such an enumeration would be very difficult if not impossible. They include all the axioms of mathematics, of both number and form They include also all the self-evident truths of logic, as "The extension and intension of concepts are inversely proportional;" and the laws of inference, as "What belongs to the class belongs to each individual of the class." Other sciences also furnish examples of self-evident truths.

Truths Arise from Ideas.—Each intuitive idea gives rise to a number of intuitive truths. For instance, from the idea of Space we may derive a number of intuitive truths or principles; as, "All bodies occupy space," "All bodies are contained in space," "No body can exist without space," "Space is necessary to the existence of material things," "All motion is in space," "All motion is from one part of space to another," "A body in passing from one part of space to another, must pass through the whole intermediate space," etc. So also from the notion of Time arise several truths; as, "Every event must be in time," "Time is necessary to events," "The mind requires time for its existence," etc. The idea of Identity gives us such propositions as "A = A," "A is not not-A," "A thing cannot be and not be at the same time," "I am the same person I was yesterday," etc. So also we have the moral axioms, arising from the idea of the Right; as, "To tell the truth is right," "To utter falsehood is wrong," etc.

These Truths not Contingent.—There are those who endeavor to resolve these truths into contingent truths, the result of experience and generalization. To this attempt we reply that no observation of particular cases and generalization thereon, could have produced the irresistible belief we have in first truths. Each observation is contingent, and any number of observed contingencies will never impose upon us the feeling of necessity,—of an inability to think the opposite. We have always seen a stone fall to the ground when thrown in the air, but we find no difficulty in conceiving of the possibility of one or all stones gravitating from the earth; we cannot however conceive the possibility of this or any other event happening without a cause. Nor, as Hamilton remarks, can the *necessity* of so thinking be derived from a *custom* of so thinking; for a custom, however general, cannot give the stamp of necessity.

Intuitive Truths Certain.—The doctrine here taught maintains the absolute certainty of primary truths. It maintains that they are absolutely different from contingent truths, that they contain no element of uncertainty or contingency. An inductive truth may be true without a single exception; but we can always imagine the possibility of an exception, and are always prepared to admit an exception if it be pointed out. With respect to a primary truth, not only do we expect no exception, but we hold that there can be no exception. From their very nature we know that no exceptions are possible; and if it were announced that an exception had been discovered, we would not believe it, for we know that such a thing is impossible. Nay, to show the absolute character of the ground upon which we stand, it is held that Deity himself cannot make an exception to these truths, for they are as eternal as God himself. This is the broad and fundamental distinction between the philosophy here taught and the materialistic, contingent, doubting philosophy, so called, of the modern school of scientists.

V. Primary Ideas.—The Primary Ideas, as already stated, are Space, Time, Cause, Identity, the True, the Beautiful, and the Good, or the Right. These ideas may be embraced under three general classes; the intuitive ideas of Science, the intuitive ideas of Æsthetics, and the intuitive ideas of Ethics. The intuitive ideas of science are those of Space, Time, Cause, Identity, etc.; the intuitive ideas of æsthetics are those of Beauty, Sublimity, and the Ludicrous; the intuitive ideas of ethics are those of the Right, the Ought, and Merit or Demerit. Each of these three classes of ideas will be treated under separate chapters. Using the word *true* in a particular sense, the ideas of science may be called the intuitive ideas of the True. Using the term *beautiful* in its generic sense as including all æsthetic ideas, and we have the three classes of intuitive ideas,—the True, the Beautiful, and the Good.

CHAPTER II.

THE INTUITIONS OF THE TRUE.

THE IDEAS of Intuition, as previously stated, may be divided into three distinct classes; the intuitions of the True, the intuitions of the Beautiful, and the intuitions of the Right. These three classes of ideas will be treated under three distinct chapters. The intuitions of the True embrace four great ideas; Space, Time, Identity, and Cause. These may also be called the intuitive ideas of science. There are other ideas belonging to this general division; but these are all that we shall discuss here.

I. SPACE.

SPACE may be defined as the condition of material existence. Every material body possesses the elements of *extension*, and extension is possible only in space. No material things could exist without space; and we can thus define space as the condition or postulate of material existence.

Space an Idea.—Space, subjectively considered, is an idea of the mind. It has no form, nor color, nor any of the attributes of a percept; and yet it is a clearly defined notion, as distinct and definite as that of an object. We know what we mean by the word space, though we may not be able to define it satisfactorily. We have also a definite notion of the meaning of the proposition, "Space is necessary for the existence of objects." There is therefore a definite notion corresponding to the word Space.

Origin of the Idea.—The idea of space is not a *percept;* it has neither color, form, hardness, nor any of the other attributes of a percept, and hence is not a product of perception. It is not an *abstract*, for it is not a notion of a quality drawn from an object; hence it is not given by abstraction. It is not a *concept*, the combination of special spaces, for the idea of space infinitely transcends the sum of all experienced spaces. Space is therefore an intuition. It is an idea that springs up in the mind on the occasion of sensible experience. Though it is not an idea given by sense, sense furnishes the occasion for its development in the mind. From the fact that it springs up in the mind in connection with sensible experience, and yet is seen to be necessary to the objects of sensible experience, it has been said to be *logically* prior to experience and *chronologically* subsequent to experience.

Not a Mere Idea.—Space is not a mere idea of the mind; it exists independently of the mind. If there were no minds to conceive of space, space would still have existence. Were this not so, then if all minds should be blotted out of existence, there would be no space. Matter would still exist, worlds would still continue to move on as now,—but exist and move in what? Not in space, we reply, for that ceased to exist with the last mind, if space be an idea. The absurdity of the conclusion shows the incorrectness of the premise that space is a mere idea. Indeed, if we make space a mere idea, we shall make matter a mere idea also, a conclusion to which Hume and some other thinkers have come.

Space a Reality.—Space, we therefore say, is more than a mere idea; it is a *reality*. Matter exists, can exist only in something, and that something—the condition of its existence—is space. Space, therefore, is a real existence. We may not be able to define it any better than the school-boy who said, "Space is a great, big, infinite nothing;" but we are sure of its reality. Even if there were no matter, there would be space. In that case, the idea might not occur to the mind; but space would exist just the same as it does at present. Even if all matter and mind should "be blotted out of being, space would still be what it is now." Nay more, so real is the existence of space that we cannot conceive of any power by which it could be destroyed.

Other Views.—Several distinct views have obtained in respect to the subject of space. Kant and his school make it a mere conception, a form which the mind imposes upon matter; having no external reality, but merely a subjective existence. Some writers "have resolved space and time into the qualities of the one infinite and absolute Being, the divine mind." Dr. Samuel Clarke regards space and time as attributes, properties, or modes of an eternal substance. Sir Isaac Newton seems to have held that the existence of God always and everywhere constitutes space and time.

Elements of Space.—As an objective reality, space has several distinct elements. First, space is *continuous;* it cannot be broken into parts which can be separated from one another; it extends from one point to another, and is continuous in all directions. Second, space has *three dimensions*, length, breadth, and depth; in other words, it is susceptible of these three measurements. Third, space is *quantitative;* it admits of definite measurement, and is estimated as the *how much.* Fourth, it gives rise to *figures*, and thus to the science of form, or geometry. Fifth, it is without limit in every direction,—in other words, it is *infinite.*

II. TIME.

TIME may be defined as the condition of being regarded as in action or motion. It is the condition of the succession of events, as Space is the condition of the extension of matter. Time is that which is required in order that something should *take place*, as Space is that which is necessary in order that something material should *exist.* In other words, Time is the condition of *events* as Space is the condition of *forms.*

Relation to Space.—The relations of Time and Space are thus clearly seen. Extension occurs in space; succession occurs in time. As *extension* is possible only in space, so *succession* is possible only in time. Time is necessary to succession, as space is necessary to extension. Space is the place of material forms; time is the place of successive events. Space gives us the question *where;* and time gives us the question *when.* As space is involved in and given along with extension, so time is involved in and given along with succession.

Time an Idea.—Time, subjectively considered, is an idea. This idea is clear and definite; we know what we mean by the word *time*, and by any proposition involving the word. Yet this idea has no form, nor color, nor any of the elements of a percept. Neither is it like an abstract, a quality drawn from an object; nor like a concept, the aggregate of the common qualities of a class of objects. The mind forms no mental image of time, yet it has a distinct cognition of it which it discriminates from all other cognitions.

Origin of Idea.—The idea of time, as of space, is an intuition. It is an idea that springs up in the mind on the occasion of sensible experience. We see objects in motion; motion involves a change of place; change of place requires a succession of different places; succession is involved in time, and is the occasion of the idea arising in the mind. The mind gives birth to the idea upon the presentation of succession as the occasion. So the succession of cognitions—the succession of different ideas, thoughts, and feelings, as different states of consciousness—also furnishes the occasion for the development of the idea of time. Were there no experience of events as successive, there would be no idea of time; though the fact of time is necessary to this succession, since there could be no succession without time. In view of this relation, as Cousin remarks, time is said to be *logically* antecedent to experience, and *chronologically* subsequent to experience.

Time a Reality.—Time is not a mere idea of the mind; it has an existence independently of the mind's cognition of it. It is the ground of movement, change, indeed of all continuous existence, and must therefore itself have an existence. If there were no such thing as time, there could be no succession, nor change, nor any continued existence. Indeed, there could be no existence of either mind or matter; for existence implies a continuity of time: to exist is to be from one moment to another. Time is thus even less purely subjective than space; for if we should assume that both space and matter are mere conceptions of the mind, yet even to these very conceptions time is necessary.

Time Not a Mere Relation.—Some writers, as Dr. Brown, define time to be merely the relation of one event to another as prior and subsequent. If this view were correct, then it would follow that if there were no events there would be no time, since there would be no relation of events. Such a supposition, with its inference, shows the incorrectness of the theory. Time does not depend on the occurrence of events, but the occurrence of events depends on time. Time would still exist if all events should cease; but were time to be destroyed no succession of events would be possible. We can in thought destroy all events except that of thought, and thus all relation of events; but we cannot, by any possibility of thought, destroy the existence of time. Time is, therefore, not the relation of events as prior and subsequent, but the necessary condition for such a relation.

Time a Relative Idea.—Time, in its popular sense, as a measured portion of duration, involves the idea of relation. Our idea of any portion of time is modified by the conception of the relation of past events to one another. In other words, we seem to measure it by the cognition of our present state of consciousness in its relation to some former state; by the relation of the present *me* to some former *me*. Hence, if the mind withdraws itself for awhile from passing events, it loses the idea of time. This is noticed in sleep, when the time of falling asleep and awaking seems to be almost the same moment. The same thing occurs when the mind is absorbed in some object of study, and is thus abstracted from passing events.

Elements of Time.—As an objective reality, time possesses several attributes of interest to this discussion. First, time is *continuous;* it does not consist of parts separate from one another like the different objects of matter. Second, time has *one dimension,* and only one; it is regarded as having *length* and may be represented by a line, one of the elements of space. Third, time is also *quantitative;* it admits of definite measurement and computation. Fourth, time gives rise to, or is closely associated with *number*, the basis of the science of arithmetic. Fifth, time is without limit in either direction, as past or future, and is thus *infinite.*

III. IDENTITY.

IDENTITY is another of our intuitive ideas. To define this idea, or state explicitly in what identity consists, is difficult, if not impossible. Approximately we may say, Identity is sameness, oneness, etc. Whatever marks off or distinguishes an object from all other similar or dissimilar objects, whatever constitutes its individuality, in that consists its identity. Or, negatively, we may say, Identity is *non-diversity*, *non-otherness*, etc. It will aid us in getting a clear idea of what identity is, by noticing what it is not.

Not Similarity.—And first we remark that identity is *not similarity;* similar things are not identical. Thus two drops of water out of the same spring, of the same size, color, quality, etc., so closely resembling each other that no acuteness of sense or delicacy of instruments could detect any difference between them, are not identical. By the very supposition, they are not the same thing, but different things. To say that two things exactly similar are identical, would be to say that two things are only one.

Similarity Not Implied.—Similarity is not only not identity, but it is not even implied in identity. An object may preserve its identity and lose its resemblance to its former self. The spherical india-rubber ball that rests on my hand, is identical with the same ball flattened by the pressure of my other hand, though there is no resemblance in shape between them. The knife opened and shut is the same knife, though quite different in appearance.

Not Sameness of Composition.—Second, identity is not sameness of composition. If we take a bar of wood or iron and divide it into several equal parts of the same size and shape, so that we could not distinguish between them, these parts would not be identical. Even though they are composed of precisely the same chemical elements in the same proportion, we could not predicate identity of them. Nay more, if we take equal and precisely similar parts of any one element, as oxygen, these parts are different parts and not the same parts. Any consideration that would make two parts identical, would make any number of parts identical, so that we should have the paradox of each part being itself and each of the others. We remark also, that sameness of composition is not necessary to identity, as in the human body, which is constantly changing.

Origin of the Idea.—The idea of identity is an intuitive cognition of the reason. Given the fitting occasion, and the idea rises spontaneously in the mind. The occasion for the idea is comparison;—the comparing of one thing with another, and of a thing with itself, or of different cognitions of the same object. The idea of identity is thus probably preceded by that of similarity and diversity. We see objects that are similar and dissimilar, and then begin to compare an object with itself, or different cognitions of the object at different times, and there arises in the mind the idea of identity.

An Idea of Relation.—The idea of identity, like many others of our ideas, is related to its opposite, diversity. Thus the idea of *long* implies its opposite *short*, the idea of *large* implies its opposite *small*, *straight* that of *crooked*, etc.; so the idea of identity stands related to the idea of diversity. To affirm identity is to deny diversity; and to deny diversity is to affirm identity. It does not follow from this that there cannot be identity without diversity; but that there can be no idea of the one without the logical necessity of the other. If there were but one thing in existence, there would then be identity but no diversity; but no condition can be imagined in which there could be diversity without identity.

A Possible Plurality.—In the idea of identity, there is implied a possible plurality of objects. In order to predicate identity, there must be a plurality of cognitions of the object. I look at the tree to-day and I declare that it is the same tree that I saw yesterday. Here are two cognitions, the cognition of to-day and the cognition of yesterday; and the question arises, are there two objects corresponding to these two cognitions, or is there but one object? The answer that there is only one object, gives us the condition of identity. In the conception of identity, we have an immediate and irresistible conclusion, that the object of these several cognitions is one and the same object.

Elements Involved.—In affirming identity, it is thus seen that there are several things implied, logically if not consciously, to the mind in forming the idea. First, there is implied a real plurality of cognitions; second, a possible plurality of objects; third, a question whether there is a real plurality of objects corresponding to the plurality of cognitions; fourth, a conviction and decision that there is but one object corresponding to the several cognitions; from which conviction emerges the clear and definite notion of identity.

Application of Identity.—The idea of identity may be applied to three distinct classes of objects; namely, Spiritual Existences, Organic Material Existences, and Inorganic Matter. The completeness of identity varies somewhat in these three classes of existences. It will be noticed that the identity of spiritual existences is much more complete than of the other existences.

Spiritual Identity.—The identity of spiritual existences consists in their continuity of existence. So long as the spirit continues to exist, it is the same spirit and not another. Should the spirit cease to exist, its identity would cease also, since there would be nothing of which to predicate identity. If another spirit were created in its place, put in the same body and endowed with the same conscious experience of the past, and with all the thoughts and feelings of the first, it would not be identical with the former; for, by the supposition, it is not the same spirit but another spirit.

Personal Identity.—By personal identity we mean that of the spiritual nature rather than that of the body. The basis or evidence of personal identity is consciousness. We are conscious to-day of the same series of past experiences as we were yesterday; the same past stretches out before our minds; and we thus know intuitively that the conscious self of to-day is identical with the conscious self of yesterday. Haven holds that consciousness is the evidence of identity; but perhaps it would be more correct to say it is the source of the belief of personal identity. Consciousness is not exactly the evidence, but it furnishes the occasion upon which the reason knows our personal identity.

Locke's View.—Locke held that identity consists in consciousness. His error is seen in the inference that if consciousness were in any way interrupted, as in sleep or fainting, personal identity would cease. Moreover, if we should become unconscious of some event of our lives, we would not be identical now with ourselves at that period. Dr. Reed illustrates this point by the supposition of a person who when a boy was whipped for robbing an orchard; when a soldier, took a standard from the enemy and at that time remembers the whipping; and who afterward became a military commander, and remembers taking the standard but not the whipping. Now it follows, from Locke's view, that the soldier is identical with the boy and the general with the soldier, but the general is not identical with the boy, because not conscious of the same things; that is, *a* is *b* and *b* is *c*, but *a* is not *c!*

Organic World.—Identity, in the organic world, consists in the continuity of the life principle under the same general structure and organization. It is not in the body alone, nor in the particles of matter of which the body is composed; but in those particles of matter permeated with and united into the same general structure by the mysterious principle of life. In this case, the identity is no longer complete, since the form and size of the animal or plant changes year by year, and even the particles of which they are composed are continually changing. It is only in a modified and partial sense that we can predicate identity of an object of the animal or vegetable world. Yet the term is so used; as we say, this is the same tree under which I played when a boy; and this old man, now tottering and feeble, is the same person that was so full of strength and agility a few years before.

Inorganic World.—Identity, in the inorganic world, consists of sameness of structure and material. For perfect identity, there must be no loss of material nor any change in structure or constitution. Strictly speaking, there can be no such identity, as matter is continually changing; so that, in respect to the organic world, the term identity is used in a secondary and popular sense. When we speak of the same mountain or river, we do not mean that they are absolutely the same, but that they are the *same numerical unity*, and not some other one of a series. How many changes are needed to destroy the identity of an object, and just where the application of the term ceases, it may be difficult to determine; as in the oft-quoted puzzle of the knife with successive blades and handles, or the ship whose original planks, ropes, sails, etc., had been replaced by successive repairs.

IV. CAUSE.

A CAUSE may be defined as that which produces an *event*. An event is that which now is, but was not; or it is that which begins to be or occur. The coming into being of a new object or fact, and also any change in an existing object, as the ripening of an apple or the fading of a flower, are regarded as events. All these things are immediately referred, for their existence, to some influence which we call their cause. The idea of a cause, therefore, is that upon which some consequence depends, or without which some event would not occur.

Nature of Events.—The term *event*, from *e*, out, and *venio*, I come, signifies literally that which comes out or appears. It is that which comes out or appears as the result of the operation of some agency. It embraces the phenomena of the material world, as the twinkling of a star, the changing of the moon, etc. Under the same head are included also states and conditions more or less permanent; as the attractive influence of matter, the equilibrium of forces, weight of bodies, conditions of fluidity and solidity, etc. Our ideas, feelings, purposes, volitions, etc., are also regarded as events in the spiritual world. Events are often complex, consisting of a combination of several simpler events, each of which has a distinct cause.

Cause and Effect.—A cause has sometimes been defined as that which produces an effect. The term *effect*, however, seems to contain in itself the idea of cause, at least by implication, and may be defined as a "caused event." The definition would thus seem somewhat tautological, being equivalent to saying, "a cause is that which produces a caused event." It is thus better to define a cause as that which produces an event. The terms cause and effect are the antitheses of each other, and are so used in philosophy.

Other Views of Cause.—There are some philosophers, of whom Hume and Mill are the representatives, who deny that we have any real idea of cause. Hume defines cause as merely the relation of things as "constantly precedent" and "constantly subsequent." He would say "a cause is a constantly precedent and an effect is a constantly subsequent event." Mill teaches the same doctrine, holding that the "invariable antecedent is termed the cause, and the invariable consequent the effect."

Objections to This View.—In objection to this view it may be said that there is more than the mere relation of antecedent and consequent, however invariable, in the idea of cause. There is the notion that one thing depends on another for its existence, or for its existence in the form in which it is presented to us. Thus a storm is invariably preceded by a change in the barometer, yet no one thinks of this change as being the cause of the storm. The sun and the day invariably accompany each other around the globe, but no one ever thinks of the day being the cause of the sun or its light. The stars are constantly associated, one moving before another, but we never hear any one say that one star is the cause of another star. Invariability of association, and the relation of cause and effect, are two very different things.

Origin of the Idea.—The idea of cause is the product of intuition. Given an example of things related as cause and effect, and there immediately arises in the mind the idea of cause. Thus, suppose I see a fire and wax near it, and notice the melting of the wax; there immediately arises in my mind the notion that the fire is the cause of the melting. Or even given an event unassociated with its cause, and the mind naturally and intuitively inquires for its origin or cause, showing that the idea is native to the mind. If I saw the wax melting, even without seeing the fire, I should think there was some cause for the change.

Other Views of the Origin.—It is supposed by some that the idea is given by sensation and perception. This, however, is impossible. The idea of cause is not a percept, for it has no color, form, etc. We cannot see, or feel, or hear cause; all that we see is the two objects, one in the vicinity of the other, and the changing form of the latter. The idea of cause springs up spontaneously in the mind, and is the product of the intuitive power.

Result of Association.—Neither is the idea the result of association, however invariable, as Hume and Mill teach. The diameter and circumference of a circle have been invariably connected with each other in our experience, but neither is thought of as the cause of the other. Neither is it the result of antecedence and consequence, however often repeated; for though summer invariably precedes autumn, we never think of one as the cause of the other. The idea of cause is not identical with invariability of antecedence and consequence, and could not have originated in that way.

Law of Causation.—The idea of cause leads to the law of causation. This law is that *every event must have a cause.* This is a universal proposition, and is regarded as a *first truth.* It is a self-evident proposition, carrying with it its own evidence. It is a necessary truth; we see that it not only is true, but that it cannot be untrue; no one ever expects to find an example in which it is not true. It is a universal truth; all men accept it as true, and act upon it even before they have formally stated it to their minds. The little child, as well as the philosopher, makes inquiries in respect to the causes of things. By it we interpret the facts around us, run back into the past for a solution of enigmas, and predict the future from the influences we see around us. It is found in the thought of every people, in the structure of every language, and controls the actions of the world.

Origin of the Law.—The law of causation is not the result of observation, for no one ever saw every event and every cause. It is not an induction from particular cases of cause and effect presented by experience or consciousness, for no combination of particular cases can give the irresistible belief that every event must have a cause. Induction can give only contingent truths, and the law is not a contingent truth which may be true and which we are willing to believe until we can find an exception to it. The law is not only known to be true, but it is known to be true without the possibility of an exception to it. Neither can it be, as has been claimed, the result of our expectation founded upon a customary experience, for the *customary* can never reach the certainty of the *necessary*. It cannot, therefore, be a generalization from facts in any way, for no multiplication of cases will stamp that which is contingent with the seal of necessity and universality. No combination of observed contingencies will transform themselves into a necessity.

Given by Intuition.—The law of causation is the product of intuition. It is to be regarded as a primary truth given by the reason. Given sensible experience as an occasion, and this truth springs up in the mind, and is known as self-evident and immutable. It is not merely a law of thought which we impose upon our observation of phenomena, but is seen to be a correct cognition of the actual relation of the facts and phenomena of the universe. It is one of the grand conceptions of that rational nature which stands above and regulates the activities of all the other faculties of the mind.

Nature of Cause.—The idea of cause is more complicated than at first sight appears. First, we notice a distinction between the *cause* of an event and the *condition* of the cause producing the event. A hammer strikes a stone and fractures it; if it were not for the brittleness of the stone, the effect would not be produced; hence the brittleness of the stone is a condition of the event. These conditions are often regarded as a part of the complex cause. Thus Mill says, "The real cause is the whole of the antecedents (or conditions), and we have, philosophically speaking, no right to give the name of cause to one of them exclusively of the others." And Hamilton says, "Every effect is only produced by the concurrence of at least two causes (and by cause, be it observed, I mean everything without which the effect could not be realized)." While there is much truth in these remarks, it seems to us that we can distinguish between a cause and a condition.

Cause Often Complex.—The cause of an effect is, however, often complex, involving several distinct elements, each of which may be regarded as a cause. Aristotle and the schoolmen divided causes into four classes; *efficient*, *material*, *formal*, and *final* causes. To illustrate, a completed work implies four things; an *agent* by whom it is done, the *material* of which it is formed, the *plan* or idea after which it is fashioned, and the *end* for which it was formed. Thus, in the production of a statue, there must be an *artist*, a *block* of marble, an *ideal* or plan in the mind of the artist, and a *motive* for the execution of the work. These four elements correspond to the four causes; *efficient*, *material*, *formal*, and *final*. Among these four causes, Aristotle seems to have regarded the final cause as the highest. The discussion of this subject is of the deepest interest; it is a discussion, however, which the limits of this work preclude.

Other Ideas.—There are several other ideas of the Reason that are regarded as intuitions of the True, as Number, Equality, Being, Substance, Infinity, etc., but the four previously named are all that our limits will allow us to discuss.

CHAPTER III.

THE INTUITIONS OF THE BEAUTIFUL.

THE BEAUTIFUL is one of the most interesting ideas of the Reason. It is also not only an idea, but is regarded as having an objective existence, and as thus being an element of the objective world. It is this element that gives rise to the arts of music, poetry, painting, sculpture, etc., which we distinguish as the Fine Arts. Its laws have been investigated, and efforts have been made to develop a science of the Beautiful. The science of the Beautiful is known as Æsthetics.

Definition.—No definition of Beauty has yet been given which has been universally accepted as satisfactory. The element of Beauty is so delicate, its manifestations are so various, and its spirit is so coy and elusive, that it is difficult, if not impossible, to discover in what the Beautiful consists. It is not difficult to name a property of a single object which makes it beautiful; but to point out what one quality there is common to a beautiful flower, statue, strain of music, and line of poetry, has been found to task the powers of the wisest philosophers. It is the aim of philosophy, however, to find the one element in different objects that renders them beautiful, such a discovery being necessary for the solution of the æsthetic problem.

Theories of Beauty.—The various theories of the beautiful may be reduced to two general classes: first, those which regard beauty as subjective, having its source and existence in the mind; and second, those which regard it as objective, having a real existence in or in connection with objects. The principal subjective theories are those of Sensation, Association, and Symbolism. The principal objective theories are those of Utility, Order and

Proportion, Unity and Variety, and Expression, or the Spiritual Theory. Some philosophers hold that "the source of beauty is not to be sought in any single quality, but in a circle of effects;" and they attempt to point out the different circumstances and peculiarities which give rise to the emotion of beauty.

I. THE SUBJECTIVE THEORIES.—The subjective theories make beauty consist, not in the object, but in ourselves as perceiving the object. Its seat and source is within us, and not without us. Beauty is not any quality of the object, but only a feeling which springs up in our minds, and which we learn to associate with the object. Each of the three principal subjective theories will be briefly noticed.

Theory of Sensation.—Many writers on philosophy make beauty a mere sensation. Objects awaken certain feelings; these feelings are peculiarly agreeable, and we come to distinguish them from other feelings by the term beautiful. Mackenzie defines beauty as "a certain degree of a certain species of pleasurable effect impressed upon the mind." Alexander Bain remarks that "the æsthetic emotions are a class of pleasant feelings sought to be gratified by the compositions of fine art." Many other writers speak of beauty as a feeling, and seem to teach that beauty has no existence except as a sensation or an emotion. They point out the characteristics of objects which give rise to the feeling, but regard them, not as elements of beauty, but merely as the circumstances which produce the feeling of beauty.

Theory of Association.—Several writers make beauty consist in the association of idea and feeling with the external object. Matter and mind are so related that certain peculiarities of the former awaken certain feelings in the latter. These feelings, which we distinguish by the term beautiful, we begin to transfer to and associate with the objects, and thus acquire the habit of speaking of the objects as beautiful. Thus Lord Jeffrey says that "beauty is the reflection of our own inward sensations," and that objects are called beautiful "merely because they all possess the power of recalling or reflecting these emotions."

Theory of Symbolism.—Another theory is that the beauty of objects consists in their being the sign or symbol of pleasing ideas or emotions. It is held that beauty is not in the object, but that the sensible appearance may, from association with or some occult relation to sensations or affections, become the *sign* of them, suggesting them to the mind. Thus the violet is the symbol of modesty, the lily of purity, the wild rose of simplicity, the oak of strength, the willow of sorrow and affliction,—and this power of symbolizing these ideas and feelings constitutes their beauty. This theory was held and very fully developed by Alison, and it was also the view of Reid, and several of the German philosophers. It makes beauty subjective, having its origin in mind rather than existing in matter.

Objection to These Theories.—All these theories, in making beauty subjective, make it purely relative. They assume that beauty has no existence in itself, either in mind or in matter, but grows out of their relation to each other. Beauty is a mere phenomenon resulting from the contact of mind and matter, just as the spark which flies from the smitten steel arises from the contact of the two, and is not to be regarded as the property of either. Beauty has no existence except as a resultant, as the spark has no existence when the two elements are not in that contact which elicits it. These theories destroy the actual existence of beauty in the objects of nature and art. If beauty has its source in the mind, then when the mind is withdrawn from an object, it is no longer beautiful. A sunset is beautiful when seen, and not beautiful when not seen. The same object is beautiful to one person who is looking at it, and not beautiful to another person who does not see it,—that is, an object is *beautiful* and *not beautiful* at the same time! The conclusion to which this theory leads shows its incorrectness.

II. OBJECTIVE THEORIES.—There is another class of theories with respect to the beautiful that regard it as having an independent objective existence distinct from the mind perceiving or enjoying it. These are called the objective theories of beauty.

The principal of these objective theories are those of Utility, Order and Proportion, Unity and Variety, and the Spiritual Theory.

Theory of Utility.—It has been held by some writers that the fundamental principle of beauty is *utility.* We perceive in the object an adaptation of parts to accomplish some practical purpose, and are thus pleased with it. Thus a watch is an object of beauty because the parts are so arranged as to obtain the end of keeping time. When this principle of utility conduces in some way to our own personal welfare, the emotion is deeper and the beauty is enhanced. This theory was held by Galen, Marmontel, and apparently by Hume.

Reasons for the Theory.—It may be urged in favor of this theory that the perception of utility in an object heightens our appreciation of it. Many objects to which we were indifferent, when their use or adaptation to some beneficial purpose becomes known to us, are at once clothed with an interest and robed with an attraction for us. A story with a moral whose influence tends to purify the taste and improve the character, awakens a deeper interest and commands more admiration than one without such an element. Besides, the contemplation of beautiful objects refines the taste and elevates the sentiments, and is thus useful; and inverting this fact, it may be inferred that the useful is the beautiful.

Objections to the Theory.—The useful is, however, not the beautiful. Were this so, the most useful things would be the most beautiful, and this is far from being true. The water in a canal is more useful than the same water dashing down the mountain side in a silvery cascade, but it is far less beautiful. Many things very useful possess no element of beauty. Thus, to use Burke's illustration, the wedge-like snout of the swine, with its tough cartilage for rooting and digging, is very useful, but no one would become very enthusiastic in praise of its beauty.

Further, the emotion of beauty and the feeling of pleasure excited by the useful, are entirely dissimilar. One is pure admiration, connected, it may be, with our selfish nature; the other is a gentle, peaceful feeling, with a character purely its own. Consciousness reveals a difference, in both the cognition and the feeling of beauty and utility; and its decisions are final. Again, to say that beauty consists in utility, because the beautiful may be of advantage to us, is to invert the true relation, and affirm that the cause consists in the effect.

Order and Proportion.—Another theory places the element of beauty in *order and proportion.* By order is meant the arrangement of the parts of an object; by proportion is meant the relation of the several parts to one another. The theory holds that the secret principle of beauty consists in the arrangement of the parts of a composite body in order and proportion. A flower is beautiful because its sepals, petals, etc., are all orderly and symmetrical; and the same thing gives attraction to the human face. To put the branches of a tree all on one side, or the eye of a man in the back of his head, or his ears at his heels, would destroy the order and proportion, and thus destroy the beauty of these objects. This was the theory of Augustine, and seems to be very nearly the theory held by Aristotle.

Reasons for the Theory.—In favor of the theory, it may be said that all objects which are beautiful, seem to possess this element of order and proportion; and all objects which lack it are deficient in beauty. A work of art lacking order and proportion in the arrangement of its parts, so far lacks the element of beauty. Several writers, as Hogarth and Kames, seem to resolve order and proportion into *fitness* or *propriety,* the proportion of the parts being determined by the purpose of the whole. Thus, in the contemplation of any object that pleases us, our admiration is increased when we discover a fitness in its parts in relation to themselves and the whole; and whenever there is a perception of unfitness or want of propriety, there is a diminution of beauty.

Objections to the Theory.—That this principle enters into many beautiful objects must be admitted; that it is the essence of beauty is doubted. If beauty consisted in order and proportion, then the more of this element we find in an object the greater its beauty; but this is not always so. There is as much order and proportion in a sunflower as in a rose or lily; but no one will claim that their beauty is the same. Two specimens of architecture, two statues or paintings, may be equal in order and proportion, and differ widely in the degree of beauty. There seems to be some subtle, invisible element that lies below and is different from order and proportion, that gives to an object that mysterious element which we call beauty.

Unity and Variety.—Another theory of beauty is that of *unity and variety.* It holds that the beautiful consists in a number of parts or attributes arranged in accordance with some definite idea or principle. Unity alone is not beautiful, as a single tone in music or the same color in a painting; but unite variety with it and we have beauty. Variety alone is not beautiful, as in the disarranged parts of a picture or a series of disconnected notes in music; but give us unity with it and the beautiful appears. The manifold, united by some principle into a unity of thought or design, produces the beautiful. In a picture or a poem, there is found a variety of parts or incidents arranged about some leading plan or idea, and this is supposed to give it its beauty. This theory was distinctly announced by Hutcheson, and has been accepted by several subsequent writers. Hegel teaches that the form in which beauty manifests itself is the "unity of the manifold." Another statement of the theory is that *beauty consists in unity of law and variety of expression.*

Reasons for the Theory.—In favor of this theory it may be said that objects which we call beautiful possess this element. It is especially apparent among the geometrical figures. Among the plane figures, the regular polygon is more beautiful than the irregular polygon, because there is more of unity in the variety; and the circle is more beautiful than the regular polygon, since in it there is perfect unity of law and perfect variety of expression. The same holds good among the solid bodies, the sphere, possessing perfect unity in variety, being the most beautiful. In a painting, while there must be variety of object and color, in order to please, they must all be arranged with reference to some leading thought or purpose. So in music, while there must be variety of tones, there must also be a unity of idea or sentiment running all through the piece in order to gratify the taste and give real enjoyment. Hogarth's line of beauty and line of grace both illustrate and serve to authenticate this theory.

Objections to the Theory.—It may be objected to this theory, first, that not everything which possesses unity and variety is beautiful; and also that the beauty of objects is not always proportional to the amount of unity and variety in them. Second, a few objects are regarded as beautiful which do not possess variety, as a single color, say blue or orange. Third, a few objects are regarded as beautiful which do not possess unity, as a gorgeous sunset, in which the golden tints are not grouped according to any one idea or plan. It must be acknowledged, however, that the objections are not very strong, and that there are many good reasons for regarding unity and variety as the law of the expression of beauty, if not its fundamental principle.

The Spiritual Theory.—Another theory makes beauty to consist in the manifestation or expression of the invisible spiritual element under sensible forms. There are two distinct elements in the world, the *visible* and the *invisible*, the *form* and the *idea*, *matter* and *spirit*. Beauty consists not in matter alone, nor in spirit alone, but in the union of these elements in such a way that the latter expresses the former. When these are united in such a manner that the material manifests the spiritual, the form expresses the idea, the visible reveals the invisible, our own spiritual nature meeting itself in what it sees, is touched and thrilled, and the soul recognizes itself as standing in the presence of the beautiful. Dr. Hickok says the beautiful consists of the dead form "quickened by the presence of an inner spirit," of the empty figure filled "with a beating heart and a glowing soul."

Origin of the Theory.—This theory was first suggested by Plato and has been adopted by many subsequent writers. Hegel regards beauty as the shining of the idea through a sensuous medium. Ruskin's typical beauty consists of qualities of objects typifying a divine attribute. There is Infinity, the type of the divine incomprehensibility; Unity, the type of the divine comprehensibility; Repose, the type of the divine permanence; Symmetry, the type of the divine justice; Purity, the type of the divine energy; Moderation, the type of government by law.

In Inorganic Forms.—According to this theory, the beauty of objects of the inorganic world consists in their manifesting some spiritual principle or some element relating to the mind. In the regular forms of the crystal we see the idea of law and order; the regularity of the angles suggests the mathematical thought of him who formed it; and the beautiful gem, flashing with liquid light, seems to be a shrine of grace, delicacy, refinement, and purity, and is admirable to us as it discloses these hidden charms to our admiring souls.

In Organic Forms.—The beauty of the organic world, vegetable and animal, consists in the revelation of some thought or sentiment that pervades them and shines out from them. Thus the violet expresses the idea of modesty, the lily of purity, the oak of majesty; and it is such an idea or sentiment shining out from them that gives them their beauty. So in the animal kingdom, the dove expresses affection, the horse strength and agility, the eagle soaring ambition, the tiger grace united with power, the lion dignity and courage; and it is the expression of these elements that gives beauty. Man crowns the sphere of organic beauty because he manifests most fully all the various forms of thought and feeling.

Beauty in Man.—Man is a complex being, consisting of soul and body. In man's body we have the marvellous expression of the Creator's thought; and he is himself, in his spiritual nature, a centre and source of thought. As an organic being, he has organic beauty of the highest order; but no mere flush and fullness of physical life can account for the beauty of the human race. It is the soul life shining out through the form and features and actions that gives man his highest beauty. Through the complex and varied organ, the human face, and through thought, feeling, and action, which constitute human conduct and evince human character, we find the highest manifestation of a spiritual element; and it is this which places man at the head of all beautiful objects. Of all visible objects, the human face stands first in the productions of art; and the grandest products of genius are those that pertain to human conduct and character. The highest form of beauty in man is where the three-fold powers of thought, feeling, and will are blended into one grand purpose in life. It is not truth merely latent in thought, but truth patent in character; it is truth passing down from the intellect into the heart, and through the heart into the will, and all uniting in that grand spiritual product called *character*, that crowns man with the diadem of highest earthly beauty.

Remarks on the Theory.—The spiritual theory is the most elevated of all the theories of the beautiful. It is distinctly held by many of the profoundest thinkers in philosophy; and the highest thought of philosophy and art tends toward this doctrine. That it contains much truth must be admitted; whether it contains the whole truth is a question. It cannot be forgotten that the beauty of flowers, as of the violet or rose, is perceived long before there is any idea of the conception which they express, and that the beauty of animals is not in proportion to their intelligence, or else the monkey would be far more beautiful than the gazelle. As the result of the highest philosophy, however, we may say that *beauty consists in the expression of the spiritual under the form of the sensible;* and that the *form* in which it usually presents itself is that of *unity and variety.*

II. THE SUBLIME.

THE SUBLIME is an intuitive idea closely related to that of beauty, and is usually treated in connection with the Beautiful. In an enlarged sense of the term, the Beautiful is used to include both beauty proper and sublimity. In popular language, however, we distinguish between the beautiful and the sublime. They are both embraced under the head of æsthetic ideas.

Idea and Emotion.—The sublime embraces both an idea and an emotion; and the same term is used to name them both. The emotion of sublimity is deep and serious in its nature; in it the mind is agitated, awed, subdued, and elevated. The feeling of sublimity, like that of beauty, is more prominent than the idea; and some writers have thus regarded sublimity as an emotion rather than an idea. This, however, is an error; as there must be some cognition of sublimity in an object, or there would be no feeling awakened by it. It is easier to describe the feeling than to discover what attribute is contained in the object that awakens the feeling; and thus the idea and attribute are often overlooked in the discussion.

Nature of the Sublime.—The nature of sublimity, like that of beauty, is difficult of explanation. It is easy to point out attributes and peculiarities of different objects that give rise to the emotion of sublimity; but it is not easy to discover what one element is contained in objects that renders them sublime. One class of thinkers hold that there is no one element, or at least that no one element can be discovered in objects; the highest philosophy, however, has ever sought to discover the one fundamental principle of sublimity amid the variety of sublime objects. The two explanations that are most satisfactory are those founded on the two principal theories of beauty; the spiritual theory and the theory of unity and variety.

The Spiritual Theory.—The spiritual theory makes the beautiful and sublime both consist in the manifestation of the invisible or spiritual element in the visible and material. It distinguishes them by the relative proportion of these two elements in the object. In the beautiful, the visible and the invisible, the finite and the infinite, are harmoniously blended. In the sublime the spiritual element predominates, the harmony is disturbed, the sensible is overborne by the supersensible, and our spirits are agitated by the presence, in an unwonted degree, of the higher element of our being. The feeling raised by one is calm and peaceful; the other awes and subdues the soul. Dr. Hickok says, "When the disclosed sentiment is that of a superhuman spirit, and we stand awestruck in the presence of an angel or a divinity, the beauty rises proportionally and elevates itself to *the sublime.*"

Unity and Variety.—The nature of the sublime may also be explained by the theory of unity and variety. In a sublime object, the unity and variety are enlarged and intensified. They seem to be transcending the limits of the understanding, so that the mind is unable to estimate or fully grasp the object. As long as the unity and variety are measurable, the mind remains quiet and composed; but when it is sensible that these are escaping it, are overwhelming it, that it is in the midst of the immeasurable and the infinite, the object ceases to be beautiful, and becomes sublime. Thus a lake or a river is beautiful, for we seem to be able to grasp their magnitude; but the ocean, stretching far away until the mind falters and is bewildered in the pursuit, is sublime.

The Correct Conception.—This last explanation hints at the true nature of sublimity. The fundamental element of sublimity seems to be that of *infinity*, or an *approximation to infinitude.* Whatever passes beyond the bounds of the finite, or awakens the cognition of the infinite, that is to us sublime. The idea of space unlimited in every direction, of time without beginning or end, of a first cause uncaused, of the immeasurable extent of creation,—all these make the soul swell with the sentiment of sublimity. So anything that approximates to these ideas, or that awakens the idea of the infinite, tends to awaken a similar feeling in the mind, and is thus regarded as sublime.

Elements of Sublimity.—This element of infinitude or approximation to the infinite, manifests itself in a variety of ways. It appears in Form, in the element of Vastness; in Force, in the element of Power; in Sounds, in the element of Loudness. The principal elements of the sublime are thus Vastness, Power, and

Loudness. All of these may approximate to the infinite, or suggest the infinite to the mind, and are thus elements of sublimity.

Vastness.—Extension far beyond the ordinary limits suggests to the mind the idea of infinity, and gives that expansion to the soul which awakens the emotion of sublimity. The wide-spreading ocean, the liquid depths of the overarching sky, the abyss of space filled with countless worlds, endless numbers and eternal duration—all these are sublime objects. Extension in a vertical direction is more sublime than the same extension in a horizontal direction; Mont Blanc, with its snowy brow in the heavens, is more sublime than if the same extent of rock and snow were stretched out on the surface of the earth. The reason for this is that extent upward exceeds our accustomed measures of altitude more than the same extent would exceed our measure of horizontal distance, and thus approximates more nearly to infinity.

Obscurity.—Obscurity is also an element of the sublime. This is due to the indistinctness of outline, rendering it impossible for us to limit the size of the object, and thus the size is exaggerated and is suggestive of the idea of infinitude. For this reason, objects at night, when their forms, clothed with shadow, merge in the darkness and are not grasped by the mind, seem larger than they do by day, and thus more sublime. There is also sometimes an element of awe and terror associated with them that adds to the element of sublimity. The description of a spirit appearing in the silence and darkness of night, as given in Job, is a fine example of sublimity.

Great Power.—Vast power is also an element of sublimity, as it is suggestive of infinite power. The ordinary forces of nature or art do not possess the element of sublimity; but when we notice forces that largely transcend these ordinary forces, the idea and emotion of sublimity are awakened. Thus a thunder-storm, the rushing cataract, the heaving earthquake, the belching volcano, a storm at sea, cause the soul to swell with the feelings of sublimity. The presence of great power accounts for the feeling of sublimity awakened by some of the animals, as the lion, the ponderous elephant, the war-horse with his neck clothed with thunder. Among the works of art, we have the vast engine with its noiseless motions, the rushing, thundering locomotive, and the majestic steamer ploughing the billows of the deep. The description of the war-horse in the book of Job is a fine example of this element in literature.

Great Loudness.—An unusual loudness in sound gives rise to the idea and emotion of sublimity, on account of its suggesting infinite vastness or power. Thus the deep bass of the organ, the crashing of thunder, the roar of the cataract, the booming of cannon, the roar of a multitude of voices, are examples of the sublime in sound. John's description in Revelation of the voices in heaven, "And I heard as it were the voice of a great multitude, and as the voice of many waters, and as the voice of mighty thunderings, saying, Alleluia; for the Lord God Omnipotent reigneth," is a fine example of the sublime in sound.

Grandeur and Sublimity.—Some writers distinguish between grandeur and sublimity; the difference, however, is not generic, but merely one of degree. Grandeur is a lower form, or less degree of sublimity. It is, as it were, a transition point between the beautiful and the sublime. The peacefully flowing river is beautiful; as it gathers impulse and purpose and rushes on in rapids, it is grand; when shivered and wild with motion it leaps the cataract in eager masses, it is sublime. "A character shaped upon truth is beautiful; standing upon truth amid the violence of enemies, is grand; adhering to truth amid the derision of friends and in defiance of the rack and fagot, is sublime."

The Sublime and Beautiful.—The sublime and beautiful, when associated in nature and art, make the deepest impressions on the mind. A Swiss valley nestling among the hills, with a silvery stream winding through it, is beautiful; the snow-clad mountains that, serene and majestic, tower heavenward and bathe their brows in the blue ether above, are sublime; and the two united, as at Chamouni, form such a combination of blended beauty and sublimity as moves the soul with deepest feelings of pleasure. Niagara is both beautiful and sublime. The emerald hue of the flowing river, the roar of the plunging water, the mist rising in fleecy clouds toward the zenith, the rainbow arch quivering in the rising mist and crowning the scene with a diadem of color, both thrill and awe the human soul. In such a combination, the beauty tempers and adorns the sublimity; and the sublimity dignifies and ennobles the beauty. This is illustrated in the sunrise flashing along the summit of the Alps, in the eloquent orations of Chatham and Webster, in the great epics of Homer and Milton, and in the grand oratorios of Handel and the sublime symphonies of Beethoven.

Moral Sublimity.—There is also an element of sublimity in human actions and character. Actions which in greatness and nobility far transcend those to which we are accustomed, awaken the idea and emotion of sublimity. Newton's discovery of the law of gravity, La Place's comprehension of all the laws of mechanics in a single equation, Napoleon's victories over the Austrians, are examples of intellectual sublimity. Brutus trampling on his natural affections and condemning his sons to death, Virginius stabbing his own daughter to save her honor, Regulus refusing to break his promise and going back to be put to death by the Carthaginians, Socrates calmly discussing philosophy during the closing hours of his life,—are examples of the sublime in character. The sublimest scene of all is the death of Jesus on Calvary, with the dying utterances, "Father, forgive them," and "It is finished." Truly could Rousseau say that "Socrates died like a hero; but Jesus Christ like a God."

III. THE LUDICROUS.

THE LUDICROUS is an idea closely related to that of the Beautiful. These two ideas are both embraced under the head of æsthetic conceptions. A general notion of their relation is expressed when we say that they are in a certain sense the opposite of each other. (Thus, the leading idea of the beautiful is harmony and proportion; while the leading element of the ludicrous is disproportion and a lack of harmony. The one pleases on account of the harmonious relation of the several parts; the other pleases on account of some incongruity in the parts related.

The Ludicrous an Idea.—It has been customary to regard the ludicrous merely as an emotion, and not as an idea. This, however, we regard as an error. Whenever we look at certain objects, we are aware of an agreeable feeling which manifests itself in smiles or laughter. This feeling we call the emotion of the ludicrous. As the basis of this feeling, there must have been some conception, some cognition of an element in the object, which awakened the emotion. Without a cognition of the ludicrous, there could be no feeling of the ludicrous; we therefore maintain that the ludicrous is an idea, as well as an emotion, and should be treated under the Intellect rather than the Sensibilities. The emotion [illegible] [illegible] [illegible].

A Rational Idea.—This idea of the ludicrous is a rational idea; it is, like the beautiful and sublime, a cognition of our higher intuitive power. As in the case of the other rational ideas, the brute shows no conception of it; no animal except man ever laughs at the incongruous or manifests any enjoyment of it. The idiot and the uncultivated savage have very little appreciation of this element; and the uncultured person less than the cultured. The higher the scale of civilization and culture, the more sensitive is the mind to this idea of the ludicrous. It is thus a rational idea, an idea that belongs to our higher intellectual nature, and has its place along with the ideas of the True, the Beautiful, and the Good.

The Emotion.—The idea of the ludicrous is always accompanied with an emotion of the ludicrous. This emotion is a species of joy or gladness, a pleasurable excitement of feeling that manifests itself in a joyousness of heart and a smiling face. It wreathes the face with smiles, causes the eyes to sparkle with delight, and often breaks out into that strong physical expression which we call laughter. The emotion is often so strong as to conceal or eclipse the idea, so that many writers overlook the conception and treat the ludicrous merely as an emotion.

Origin of the Idea.—The idea of the ludicrous, as has already been stated, is intuitive,—it is a product of the reason. It arises in the mind on the occasion of sensible experience. I look at an object or listen to a story; I see the object and hear the words; but by the eye of intuition I perceive some peculiarity which awakens an emotion that expresses itself in a smile or a laugh. The physical eye does not see it, the ear does not hear it; but, as with the Right and the Beautiful, there is an immediate perception by the Reason of some element which gives rise to this peculiar feeling of gladness and buoyancy of spirit.

I. NATURE OF THE LUDICROUS.—The nature of the ludicrous, like that of the beautiful and right, is a subject that has puzzled philosophy. The question is, what is that one principle that pervades all objects, which awakens the idea and emotion of the ludicrous? A few of the different theories will be presented.

Theory of Aristotle.—Aristotle regarded Comedy, which is the expression of the ludicrous, as an illustration of worthless characters in relation to what is *mean*, when it is not so to a painful degree. Quintilian thinks that "A saying that causes laughter is generally based on false reasoning (some play of words), has always something low in it; . . . *is never honorable to the subject*." Campbell mentions "that laughter is associated with the perception of oddity, and not necessarily with degradation or contempt." Kant makes the ridiculous arise from the sudden collapse of a long-raised and highly-wrought expectation.

Theory of Hobbes.—The celebrated theory of Hobbes is that "Laughter is a sudden glory arising from the sudden conception of some eminency in ourselves, by comparison with the infirmity of others or with our own formerly." In other words, as Bain remarks, it is an expression of "the pleasurable feeling of superior power." The person who laughs is for the time supposed to be superior to that at which he laughs. Thus we laugh at some defect of body, mind, or manner; some blunder, or awkwardness, or lack of sharpness or courage, etc., feeling above and looking down upon the person who exhibits them. In reply to this theory, it is sufficient to say that we do not always laugh at what is inferior to us, that we often laugh at what is not inferior to us, and that the proud and haughty, who most look down on inferiors, do not laugh most.

The True Theory.—The essential element of the ludicrous seems to me to be the *incongruous.* Whatever the object may be at which we laugh, it will always be found to contain the element of incongruity. For example, a face awry, a fly on the end of one's nose, an awkward attitude, a pompous manner, a big hat on a small person, big words in describing little things, a pig in a church, an old deacon nodding during the sermon,—all such things contain an element of incongruity, and are, for this reason, laughable. Should we see a perfumed dandy, tripping along Broadway, suddenly slip and fall sprawling into the mud, we should laugh; a dandy floundering in the mud is certainly an incongruous spectacle.

Incongruity the Element.—This element of incongruity is often accompanied with some accessories that increase the influence of a humorous object; but whatever else is wanting, this element of the incongruous must always be present. No object is humorous without it; and every object that is humorous possesses it. In nature or art, in objects or ideas, whatever causes us to laugh, will be found to lack some congruity or harmony or relation among the parts. Not everything that is incongruous is ludicrous, however, for there may be some other element that counteracts the natural effect of the incongruous, such as pity, fright, etc. In these cases the greater emotion overpowers the lighter and destroys the effect of the incongruous. But all things which awaken an emotion of the ludicrous will be found to contain this element of disproportion and incongruity.

Incongruity in Conditions.—This element of incongruity is seen in a variety of objects. One form is that of the incongruity of *conditions*. Thus the incongruity between the intentional condition of the dandy and his actual condition in the mud, is a source of the mirthful feeling. A person who prides himself on his knowledge and is pompous in its display, becomes an object of laughter when he makes a blunder. A lady who puts on fine airs and pretends to polite accomplishments makes herself very ridiculous when her manners are coarse and her language unrefined and ungrammatical. The ignorant servant girl imitating the airs and manners of her mistress is a subject for laughter.

Similar and Dissimilar.—The incongruous manifests itself when amid the diversity there is an apparent similarity. Thus the humor in a pun is occasioned by the diversity of thought combined with the similarity of sound. This is seen also in the example of the Irish girl, who, when she brought a glass of water in her hand, was told by her master to bring things on a waiter, and next day brought in his boots on a waiter. This was Johnson's idea of wit, when he defined it as "a kind of *concordia discors*, a combination of dissimilar images." Campbell also expressed this same idea in his "strange assemblage of related images." The humorous is thus a similarity in dissimilarity, or a dissimilarity in similarity; it is a kind of discordant harmony, a disagreeing agreement, an appropriate impropriety, etc.

Design and Execution.—The incongruous frequently manifests itself in the incongruity between purpose and execution. The person who aims at great nicety of speech and misses the mark, is naturally laughed at. The lady who, trying to make a show of her fine clothes, gets some of her garments awry, becomes an example of the ridiculous. Biddy's bringing in the boots on the waiter is the more laughable, because she thought she was doing what her master ordered. The little insect on the lady's hat which gave occasion to the poem, "O wad some power the giftie gie us," was much more ludicrous to the poet on account of the fine clothes and fashionable bonnet of Miss Jenny, than if it had been on "some poor body."

Element of Surprise.—The element of surprise increases the effect of the ludicrous. The unexpectedness of the joke makes it more effective than if we knew what was coming. That which flashes on the mind, which comes with a little shock to it, produces the deeper effect. The quick repartee, the flash of a sudden witticism, the bubbling up of a humorous expression,—these are the most pleasing to us. The tardy repartee, the witticism that is studied out, are much less effective than the quick and spontaneous flash of wit. The knowledge that Sheridan had studied out and prepared his wit would have largely detracted from its effect. Wit is like champagne,—lively, fresh, and sparkling, which loses its flavor and life when brought to the air.

Surprise is not an essential element of the ludicrous, however; for all things which surprise us are not funny. We are surprised at the loss of a friend, but it is not at all humorous. The sudden fall of a window by which we are sitting makes us jump, but does not make us laugh. My friend laughs at me because I jump, for he sees the incongruity between my fright and the insignificance of the cause.

Element of Novelty.—The element of novelty increases the effect of the ludicrous. The unexpectedness of a joke or a humorous remark causes it to produce a deeper impression on the mind. Familiarity with a witticism makes it lose its flavor; a humorous story repeated several times loses its freshness and zest, and at last becomes stale and intolerable. Wit and humor do not depend on novelty, however. The new is not necessarily funny. A new object, a new book, a new picture, etc., do not awaken feelings of mirthfulness. Novelty is merely an added element to the humorous, as it is to beauty, though it is more essential to humor than it is to beauty.

II. FORMS OF THE LUDICROUS.—The ludicrous manifests itself in various forms. It is found in both *objects* and *ideas;* and in either case the incongruous relation may be *accidental* or *intentional.* Certain forms of the accidental grouping of objects or ideas constitute what is called the *blunder* or *bull.* The incongruous relation of ideas gives us the two distinct forms, called *wit* and *humor*.

Ludicrous in Objects.—The incongruous relation of objects is often amusing. A very long nose, a grimace, some odd arrangement of the hair, some disarrangement of the dress, etc., will excite laughter. This may be the result of accident, as with the dandy slipping into the mud, and the lady with the insect on her bonnet. Objects may also be brought into incongruous relations intentionally, giving us two forms of the ludicrous. Thus a person may imitate the peculiarities and oddities of some individual, giving rise to what is called *buffoonery;* or he may play off his joke at his own expense for the amusement of others, in which case we have the *clown*.

The Blunder.—The accidental grouping of incongruous ideas gives us what is called the *blunder* or *bull*. This is the special form known as Irish wit. Its characteristic is that there is some inconsistency between the thing said and done and the thing meant. There is an apparent congruity in the things related, but a real incongruity. Swift gives a good illustration of this form of humor in the story of the people who, becoming angry at a banker, threatened to burn the notes of his bank, not thinking that it would make them poorer and him richer. A story is told of an Irishman whose face was blackened before being wakened to start on his early journey, and who reaching the next hotel looked in the glass and seeing his plight, exclaimed, "Shure they 've waked the wrong man and left me ten miles behind." Two Irishmen, walking on the road leading from Newburgh, came upon an old milestone, when one of them, supposing it to be a tombstone, said, "Tread lightly, Jamie, the dead rest here; he was twenty-seven years old, and his name was Miles, from Newburgh." Wendell Phillips gives a good example of this kind of humor when, in showing that we have borrowed our jokes from the ancients, he says that "the Irish bulls are mostly Greek."

Wit and Humor.—Two forms of the humorous in ideas, often contrasted, are those of wit and humor. It is difficult to state clearly the distinction between them, though the difference is easily appreciated. Wit is bright and sparkling; humor is soft, gentle, and glowing. Wit has an air of smartness and sharpness; humor is modest and kindly in its nature. The former may be compared to the quick spark of the Leyden jar; the latter to the soft, gentle current of the galvanic battery. Wit is sometimes bitter and malevolent; humor is always kindly and good-natured. Thackeray, one of the greatest humorists, defines humor to be "a compound of wit and love." "The best humor," he says, "is that which contains the most humanity, that which is flavored throughout with tenderness and kindness." In a literary production, wit should come in only by flashes, while humor may be continued for a long time with enjoyment. As a literary quality, humor is much higher than wit; and, it may be added, is much more rare.

The Pun.—A form of wit in which dissimilar ideas are related by means of similar words is called the *pun.* The pun is thus a play upon words; and is entitled the wit of words. The effect of a pun depends upon the contrast between the two ideas related under cover of a common or similar word; the greater the incongruity between these ideas, the more ludicrous the effect and the more perfect the pun. One of the best puns in the language, perhaps, is that of Hood's in "Faithless Nelly Gray," in which he says, when she died:

> "They went and told the sexton,
> And the sexton tolled the bell."

The pun is regarded as an inferior kind of wit; yet a good pun is sometimes very effective.

Satire and Sarcasm.—Similar to the incongruity of the *ideas* of words, is the incongruity between the *thought* expressed and intended, where one thing is said and another thing is meant. This includes the bull, in which the incongruity is accidental, and two other forms, *satire* and *sarcasm,* in which the incongruity is intentional. Satire is that form in which, under the guise of apparent praise, are hidden the arrows of ridicule and criticism. In sarcasm the censure is stronger and more bitter, and the form is more direct and less hidden. Satire pierces with a polished rapier; sarcasm cuts with a rough-edged sword.

Burlesque.—When the incongruity consists in the debasing of what is great and noble, by representing it as mean and contemptible, we have what is called *burlesque.* Butler's Hudibras thus ridicules the Puritans of the days of Cromwell; and Don Quixote is a burlesque on the days of chivalry. The term burlesque is also applied to a ludicrous imitation or caricature of some elevated composition. A humorous imitation or application of a poem is called a *parody.*

The Mock-Heroic.—When the incongruity consists in elevating low and trivial subjects into a dignity by high-sounding epithets, we have what is known as the *mock-heroic.* It is so called because it burlesques the heroic by imitating the manners or actions of heroes. Pope's "Rape of the Lock" is a good specimen of the mock-heroic. Some parts of Irving's "Knickerbocker's History of New York" present an excellent example of this form of the humorous.

Relation of the Æsthetic Elements.—Having discussed the nature of the three æsthetic elements—the beautiful, the sublime, and the ludicrous—we are prepared to notice a little more definitely their relation to one another. In beauty there is a harmony of relations; in sublimity there is a suggestion of the infinite; in the ludicrous the harmony becomes distorted and the relation is that of the incongruous. In the beautiful, the spiritual and material are harmoniously blended; in the sublime, this harmony is broken by the predominance of the spiritual; in the humorous, the harmony is also destroyed by the loss of the spiritual element and the predominance of the material. In beauty, there is unity and variety of expression; in sublimity, the variety is lost in the suggestion of infinity; in humor, the unity is lost, and the variety exists in disproportion and incongruity.

IV. The Power of Taste.

The power of the mind which has to do with the element of beauty has received the special name of *Taste.* This term is so widely used by writers that it will be appropriate to inquire just what we mean by it. Taste has been variously defined by different authors; some making it a mere sensation, some an intellectual perception, and others uniting both of these elements in their definition. Thus Blair defines it as "a power of receiving pleasure from the beauties of nature and art." McDermot regards it as "the power of discriminating those qualities" in objects which excite in us pleasant emotions. Alison defines it as "that faculty of the mind by which we perceive and enjoy whatever is beautiful or sublime in the works of nature or art."

Difficulty of Defining.—This variety in the definitions given by different writers on the subject, indicates that it is difficult to determine what is meant by Taste. As we find the term used in literature and philosophy, it is not easy to ascertain just what elements of the mind it is designed to embrace. The difficulty is not in understanding the action of the mind in respect to æsthetic ideas; but in deciding how many of these actions or states shall be included in the term *taste.* The question is thus not a purely psychological one, but partly a philological question. The object of this discussion is to ascertain what mental elements are properly included in this word.

The Mental Elements.—The elements of the mind exercised in the æsthetic attributes of objects are two-fold; an intellectual and an emotional element. First, there is a perception of the æsthetic element; this is an act of the reason. Second, there is a feeling awakened by this perception; this is an act of the sensibilities. The emotional element is often so strong as to lead us to overlook the intellectual element. Some hold that the emotional element precedes and is the basis of the idea; they say we first experience the emotion of the beautiful, and this emotion leads us to think there is an idea of beauty and a quality in objects called beauty which produces the emotion. This, however, we regard as incorrect; the idea is the basis of the feeling, and not the feeling of the idea. The action of the mind, which we have explained above, applies to the element of the sublime and the ludicrous, as well as the beautiful, all of which are æsthetic ideas.

What is Taste?—Which of these elements should be included in the term *taste?* Is taste entirely intellectual, or entirely emotional, or is it a combination of these two elements? The correct view, we think, is that taste includes both of these elements; it is both intellectual and emotional in its nature. When we speak of a person's taste, we mean both the power to perceive the beautiful and the power to enjoy the beautiful. A person of good taste is one who can both see and appreciate the æsthetic elements in nature and art. We may thus define taste to be *that power by which we perceive and enjoy the æsthetic elements in the objects of nature and art.* Under the æsthetic elements, as already explained, we include the beautiful, the sublime, and the ludicrous. Using the word *beautiful* in its generic sense, as including these three elements, we have the following definition: *Taste is that power of the mind by which we perceive and enjoy whatever is beautiful in nature and art.*

Taste Not a Faculty.—It is thus seen that taste is not a faculty, but rather a combination of the action of two faculties, or two distinct forms of mental activity. It is thus properly called a *power*, a term which we use in a more popular sense than the term faculty. A faculty implies a distinct form of mental activity, and is thus simple in its operation. A power may be the combination of distinct operations of two or more faculties.

Element of Judgment.—It will be noticed that we have not included the element of judgment under the term taste. There seems to be sufficient reason for this. A person manifests his taste by the judgments he expresses on the works of art; but the judgment is not his taste. Taste lies back of and conditions his judgment. Correct judgments show good taste; incorrect judgments manifest bad taste. The taste seems to be the subjective condition of mind which perceives and enjoys, rather than the affirmation or expression of these conditions. Our judgments reflect our opinions, but are not a part of that condition of the mind which gives rise to and shapes our opinions. Taste is the mental condition or action which directs and moulds our judgments of objects of beauty, and does not include the faculty of judgment.

Relation of the Elements.—The two elements, perception and appreciation, do not always exist in equal proportions. There may be acute sensibilities without a very clear perception of the beautiful, and there will then be intense delight over the beauties that are perceived, but a lack of delicate perception of beauty. Without this perception, many of the objects of art are not regarded as beautiful. The soul may stand in the presence of a statue of Canova or Thorwaldsen, and be unable to see the beauties which it expresses. The cataract of Niagara, which awakens feelings of sublimity in most minds, may seem to some dull soul merely a good place to wash sheep. The simple melody may awaken feelings of beauty in the heart of the peasant who can see no beauty in the sublime choruses of Handel, or the heavenly sonatas of Beethoven.

Application of Taste.—The power of taste, it is evident, applies to all the æsthetic ideas. The principal æsthetic ideas are the Beautiful, the Sublime, and the Ludicrous; and all of these are matters of taste. It has been customary to define taste as applied to the beautiful and sublime, omitting the humorous and the witty. This is evidently an error; and one that should be corrected. It needs as much taste to perceive and enjoy the humorous as the beautiful; and a little better taste would keep some things that are flat and vulgar out of literature. Taste is the æsthetic power, and embraces all of the æsthetic ideas and emotions. Special attention is called to this point as it is new, and one that should be emphasized.

Standard of Taste.—Man is gifted with a native taste for the beautiful; he can see and appreciate the divine element of beauty, which the Creator has embodied in the world around him. The divine element in man meets and recognizes a divine element in nature, and comprehends and enjoys it. This natural endowment of taste is cultivated by the contemplation of the works of nature and art, and by a study of the principles or laws of beauty. When thus cultivated, each man becomes a critic of art, and can sit in criticism on the works of the artist. Personal peculiarities of taste allow of slight differences or preferences in art; but there will be a large general agreement among all persons of cultivated minds. If at any time, through personal idiosyncrasies, there seems to be opposition of taste, we appeal to the standard of the *opinion of the majority of cultivated persons.*

CHAPTER IV.

THE INTUITIONS OF THE GOOD, OR RIGHT.

THE GOOD, or the Right, is the crowning idea of the human soul. The three great rational ideas of the mind are the True, the Beautiful, and the Good. These three ideas rank in an ascending series, the Good or the Right standing at the summit. We shall now enter upon the explanation of this highest and grandest idea. The discussion will include three things; The Nature of the Idea, the Nature of the Right, and the Origin of the Idea.

I. NATURE OF THE IDEA.—The idea of the Right is a cognition in relation to the actions of rational beings. As soon as we contemplate certain actions of a person, we immediately perceive that they contain an ethical element; and we pronounce the act right or wrong accordingly. The action may be actual or contemplated; it may pertain to the present, past, or future; it may be the act of a peasant, a warrior, or an emperor. In every case it must be the act of a rational being, for we never apply the idea of right and wrong to the action of a brute animal, or an inanimate object of nature.

The Idea Universal.—This idea of the Right is universal. That it is so, is attested by the experience and productions of the race. All men make moral distinctions, calling one thing right and another wrong. No people have been found, however sunk in ignorance and moral degradation, that do not make moral distinctions. The languages of all civilized and even of uncivilized peoples, abound in words expressing these distinctions. The literature of the world is filled with incidents and expressions based on this conception; indeed, the idea of the Right is the inspiring principle of poetry, fiction, and oratory.

Importance of the Idea.—The idea of the Right is the most important conception of the human mind. By means of it, society is organized and held together. It is the basis of national life, and the foundation of law and government. Take this idea out of society, and man would sink below the condition of barbarism; take this idea out of national life, and the state would become but a herd of wild animals. It builds our alms-houses, erects our public schools, rears our churches, gives inspiration and beauty to our literature, and in fact is the foundation of everything that gives excellence and dignity to the human race.

The Idea of Obligation.—There are two ideas that accompany or grow out of the idea of the Right; these are the ideas of *obligation* and of *merit* and *demerit.* The idea of obligation grows immediately out of the idea of the Right. As soon as we have cognized an action as right, we immediately have the cognition that it ought to be done; as soon as we have cognized an action as wrong, there arises the idea that it ought not to be done. These two ideas are what we call the ideas of *obligation;* they are the ideas of the *ought* and the *ought not.* They pertain to our own actions and also to the actions of others. We know we ought to do what we think is right, and ought not to do what we think is wrong. We know also that another ought to do what he thinks is right, and ought not to do what he thinks is wrong.

Merit and Demerit.—Following the doing or not doing of an act, comes the idea of *merit* or *demerit.* When we do what we think is right or refrain from doing what we think is wrong, there arises in our mind the idea of merit. When we do what we know to be wrong, or refrain from doing what we think to be right, there arises the idea of demerit. This idea also pertains to both ourselves and others in relation to moral actions. We condemn ourselves for the neglect or violation of a moral duty; we censure others for doing wrong or for failing to do right. The entire code of social order and government is based upon this idea.

The Ethical Idea Complex.—It will thus be seen that the ethical idea is a complex one. It embraces three conceptions; the *right* and *wrong*, the *obligation* to do the right and not do the wrong, and the *merit* or *demerit* of the doer of the actions. The ethical idea is thus a triune conception, a "three in one." In this respect, the idea of the Right differs from that of Beauty, Space, Time, or any other of the rational ideas.

The Right a Reality.—The Right is not merely an idea; it is also a reality. There is a real right in actions, corresponding to our idea of the right. An action is not right or wrong merely because we think it to be so; we think it to be right or wrong because it is so. The right and wrong are realities; they are essential attributes of voluntary actions. They are verities too that are eternal and fixed in their nature; they cannot be changed or annihilated. No one can make the right wrong, or the wrong right. To cheat and lie are ever wrong, have always been wrong, and will always be wrong. The time has never been, the time will never be, when it will be noble to lie and cheat; and when to tell the truth and be honest will be wrong. Right and wrong are eternal and immutable verities.

Origin of the Idea.—The idea of the right is the product of the intuition. It is not a conception put into the mind from without; it is not a development from sensations of the agreeable and disagreeable, nor a product of our selfish instincts. It comes welling up from the depths of the soul when the proper occasion is presented. Given an example of the action of one rational being towards another, and there arises immediately in the mind the idea of the rightness or wrongness of this action. The physical eye sees the action; but by the eye of intuition we perceive an ethical element in the action by which we pronounce it a right or a wrong action.

II. NATURE OF THE RIGHT.—The question in what the right consists, what it is that makes a thing right, has often been discussed. This is a difficult question, and one upon which writers widely differ. The principal theories in respect to the question are,—Highest Happiness, Expediency, Legal Enactment, Divine Law, the Divine Nature, and the Eternal Nature of Things.

Highest Happiness.—It has been held by some writers that the ground of the right is in its securing the *highest happiness* of the individual. Any action which contributes to the highest happiness of a person is right, and it is so merely because it does thus contribute to his happiness. Anything which detracts from man's happiness is wrong, and it is so merely because it diminishes his enjoyment. Happiness, or the welfare of the individual, is the test of moral actions, and determines all the moral quality that they possess. This theory in different forms was held by Paley and others.

Objection.—The objection to this view is that it makes virtue and happiness identical, and thus contradicts the consciousness of mankind. Every one distinguishes between that which gives pleasure, and that which is right. Men often do the right because it is right, even at the sacrifice of happiness. Further, the theory takes away all absolute quality of the right. If that which gives happiness is right, the right becomes as variable as our tastes for enjoyment. If lying and cheating would contribute to the pleasure or welfare of a person, according to this theory lying and cheating would be right, and truth and honesty would be wrong.

Theory of Utility.—Several thinkers incline to the theory that the essence of the right is found in the principle of utility. That which is best adapted to the welfare of man is right, and is so because it is best adapted to his welfare. It is not mere happiness, for that which leads to enjoyment may be of real disadvantage; but that which, all things considered, will secure the best interests of the individual and the race. Taking a broad view of the world, it has been seen that some things will aid the progress of the race, and lift it up into a higher civilization; such things are pronounced to be right, and are so because they accomplish this result. The opposite things are wrong, and are so because they retard the progress of the race. Thus utility or expediency is the ground and essence of the right. This seems to be the view of Mill and some other writers.

Objection.—It is admitted that the right secures the best interests of the individual and the race. But to give this as the source of the right is to invert the true relation of cause and effect, calling the effect the cause. The true relation is that certain actions secure the best interests of the race because they are right, and not that they are right because they accomplish this object. Again, as applied to the individual, this theory makes *duty* and *self-interest* identical, and this contradicts human consciousness. It would also make the right variable, for the best interests of two individuals under different circumstances might seem to be secured by different or even opposite actions. So in respect to the community, we cannot always know what will secure the best interests of society and the state, and thus we could not determine what is right or wrong. Besides, it contradicts consciousness, for we do not thus stop to reason about the matter, but decide instantly whether a thing is right or wrong.

Legal Enactment.—The ground of right has also been placed in *legal enactments.* The law requires certain actions; these we regard as right: the law prohibits certain actions; these we regard as wrong. The civil authority is ultimate; man cannot go back of the law; his only duty is to obey. The law makes the right and wrong of things, and is the ultimate ethical principle. This view was held by Hobbes and by some of the ancient sophists.

Objection.—This theory destroys all fixedness in the standard of right. By it the right varies as the law varies. The law commands one thing to-day, and another thing to-morrow; so one thing is right to-day, and another thing to-morrow. Laws have changed from age to age, so the right must have also changed. By this theory, also, all laws are right, and no law can be wrong, so that we could never sit in judgment upon a law. While a statute is before a legislature for its action, it may be pronounced wrong; but as soon as it is voted upon and becomes a law, it immediately becomes right! By this theory it also follows that all laws are equally right. The laws of Draco are as good as those of Solon or Lycurgus; the edicts of Nero are as excellent as those of Constantine! The boundary line of a country is the boundary of right and wrong; step over the line that divides two countries, and you change right to wrong and wrong to right!

The Will of God.—Some excellent thinkers place the right in the revealed *will of God.* What God wills is the ultimate right, and is so because he wills it. What is contrary to his will is wrong, and is wrong because it is contrary to his will. This view was held by Descartes and others. Paley regarded it as the rule of right, though not the ground of right.

Objections.—There are apparent objections to this theory. If the right originates in the will of God, and was not right before he willed it, then if we suppose his will to change, we must suppose the right to change. Further, had there been no revelation of his will, then there would have been no right and wrong. And if there was any mistake or misunderstanding as to the revelation of his will, right and wrong would not be the same. Again, we could not say of the law of God that it is good, for to say that his statutes are just and true, would be merely to say that his statutes are his statutes. Again, it would prevent us from attributing to Deity any moral character. "Holy, holy, holy, Lord God," "just and true are thy ways," would have no meaning to us except that his actions are true to his will.

The Nature of God.—It is held by some writers that the right lies in the *nature* and *character of God.* God is, and the right is because God is as he is. The wrong is that which is contrary to the nature of God. This view was held by Dr. Chalmers and by some other writers.

Objections.—To this view several objections have been presented. First, it is said, if God had been other than he is, the right would be other than it is. Second, if right and wrong depend on the nature of God, then if we could suppose God to change, the right and wrong would also change; and thus virtue would become vice and vice would become virtue. Third, by this theory it is a mere meaningless tautology to apply the terms holy, righteous, etc., to God, as they are a part of his nature, and have their existence only in his nature. Of course, it must be admitted that it is as easy to conceive of right and wrong changing, as to conceive of God changing, or being other than he is.

Nature of Things.—This theory holds that right and wrong exist in the very *nature of things.* They are self-existent, independent, and immutable. They have no origin; they are as eternal as God himself. Were it possible for God to cease to exist, right and wrong would still exist; were it possible for God to change, right and wrong would still be unchanged. Deity does not make them, and he has no power to change them. Law does not produce the right, but all good laws are in accordance with the right. The act is not right because it secures happiness, but it secures happiness because it is right. The right is right because it is right; we cannot get back of the right and find anything that makes it right.

Objections.—To this theory objections have also been made. Dr. Gregory says that "This view is at once contrary to the true conception of God and the constitution of things. It originates in the attempt to understand the 'Almighty unto perfection,' and to measure completely this universal system with the yardstick of man's reason. According to this hypothesis, there is something back of God which shapes all his course in spite of himself—a modern *fate.* The Deity becomes a mere figure-head in the universe. . . . God is at least *as eternal and immutable as morality. There is no notion of things except that which God has constituted.*"

The Correct Theory.—It is probably correct to say that right and wrong are ultimate principles. It is impossible to separate them from the nature of God, since he is also eternal and immutable. They have their source in the nature of God and the nature of things; or they are co-existent with God and the universe. We cannot conceive either God or the right to change; they are both eternal and immutable; neither was before the other; neither was created, and neither can be destroyed. The right is thus wrapped up, as it were, in the nature of God and the universe. Logically it is distinct from the character and actions of God, so that we may sit in judgment upon his laws and predicate holiness of his nature and actions. We can thus see a meaning in the expressions "Shall not the Judge of all the earth do right?" and "The law of the Lord is perfect."

III. ORIGIN OF THE IDEA.—Another question extensively discussed by philosophers is that of the *origin* of the idea of the right. Whence comes this idea? how does it originate in the mind? To this question many different answers have been given. The question is closely related to that of the nature of the right, and by some writers has been confounded with it, though there is an essential difference between them. The one is *what makes a thing right;* the other is *how do we come by the idea of the right.* Some of the principal theories of the origin of the idea will be stated.

Education.—It is held by some writers that the idea of the right is the product of *education.* The theory holds that originally man had no idea of the right, that he is not competent to develop such an idea, but that it is put into his mind by the process of education. He is taught to call some things right and other things wrong, and thus learns to make moral distinctions. This view seems to be held by Paley, Locke, and some other thinkers.

Objections.—To this view it may be objected, first, that education will not account for the origin of the idea. Education merely gives shape and development to the idea already in the mind. Secondly, education in respect to the right presupposes the idea already existing, for where did the educators receive the idea which they impart? Besides, if these ideas are the result of education, it follows that our moral distinctions have no fixed character, but vary with our education, and that we could be educated to believe the right to be wrong and the wrong to be right, which we maintain is not possible.

Legal Enactment.—It is held by some thinkers that the ideas of the right are the result of *legal enactment.* This theory assumes that man naturally has no ideas of right or wrong, and that he is incapable of making these moral distinctions. He comes in contact with law, either human or divine, becomes familiar with its commands and restrictions, and learns to think some things right and other things wrong. In this way the idea of the right is developed in his mind, and he learns to make moral distinctions. This is the theory of Hobbes.

Objections.—The objections to this theory are about the same as those which apply to the theory of education. First, law presupposes the idea of the right in the lawgiver, and hence does not account for its origin. Besides, this theory would make our ideas of the right vary as the laws of a country vary. If the law required the opposite of what it now requires, that opposite we would regard as right and the present right as wrong! We have only to step across the boundaries of a country to change our ideas of right and wrong! The absurdity of the conclusion seems to be a sufficient refutation of the doctrine. If we refer the idea to divine law, we remove the question from philosophy and hand it over to theology, which is not in the correct spirit of philosophy. Still, we believe that man can judge of the rightness of divine law; and the Bible represents God as treating man as if he had this power.

Theory of Association.—The theory of *association* assumes also that man's mind is morally a blank, and that the moral nature is developed from sensations or feelings. Some of our feelings are pleasant and become associated with the acts which produced them; and such acts we call good. Some of our feelings are unpleasant, and these become associated with actions that produce them; and we learn to call such actions bad or wrong. Thus, suppose a man does something to me to make me feel happy, and I say "*good feeling.*" Associating this with the person, I say "*good person* that caused good feeling;" and passing from the person to the action, I say "*good action* of good person that caused good feeling." In the same way we may account for the idea of the bad or wrong, associating the bad feeling first with the actor and then with his act. In both cases, the feeling is transferred to and associated with the actor and his action; and we thus learn to make moral distinctions independently of our feelings. This is in principle the view of Hume, Mill, and others of the sensational school.

Objections.—There are several objections to this ingenious theory. First, the theory of association overthrows the inherent distinctions of right and wrong, and makes virtue and vice the creations of the sensibilities, the products of the feelings. Second, it contradicts the order of psychological operations, in which we have first the cognition and then the feeling. Third, it makes morality merely relative, having no absolute existence, but a variable affair as our feelings may vary. Fourth, it also contradicts the facts of consciousness and experience, as we often find ourselves and others making moral distinctions before there is time for the complicated process of transferring our feelings. Besides, our ideas of the right and our feelings of pleasure are often the reverse of one another; and this could not be if the idea of the right were a transfer of feeling.

Theory of Sympathy.—Another theory is that the idea of right and wrong originates from the principle of *sympathy*. Sympathy is a spontaneous activity of the sensibilities. Sympathy with the feelings of an actor, and also with the feelings of one towards whom the act is performed, leads us to approve or disapprove the act. Sympathy with the gratitude of one who has received a favor leads us to regard the benefaction as right; sympathy with the resentment of one who has been wronged leads us to regard the act as wrong and the actor as worthy of punishment. Sympathy with the feelings of others in respect to our own actions, or of an imagined spectator of them, gives rise to self-approval or condemnation, and the sense of duty. The summary of these sentiments and the judgments derived from them gives the rules of morality. This is the celebrated theory of Adam Smith.

Objections.—The objections to this theory are the same as to that of association. First, it makes right and wrong merely relative, depending on the feelings of others and on our feelings of sympathy, both of which are changeable, and thus may change our ideas of right and wrong. Second, it gives no imperative character to the moral cognition; it carries with it no idea of moral obligation. Third, the view is not sustained by consciousness; we are not conscious of deriving our moral ideas in this manner; we are conscious of making moral distinctions independent of and even contrary to our sympathies. We sympathize with a criminal, but know that it is right to punish him.

Theory of Bain.—Alexander Bain, one of the most distinguished philosophers of the sensational school, derives the idea of the Right from the two principles,—Sympathy and Prudence, or Self-love. The objection to the element of sympathy has already been stated in the reply to the views of Adam Smith. To the element of self-love, or highest happiness, it may be objected that it would make the right and wrong variable,—as what affords happiness to one person does not always give happiness to another. Besides, we are conscious that what brings most happiness is not always right. A thief knows that it is wrong to steal, and yet his booty gives him pleasure so long as the law does not arrest and punish him. Again, a good man frequently sacrifices his desire of happiness to his sense of duty. Men suffer and die for the right; not because suffering and death give them pleasure, but because they are true to their principles or their faith. If it be said that a Christian is willing to suffer here in order to secure future happiness, we reply that an infidel, who has no belief in the future, may stand true to his sense of duty against all the promptings of self-interest. It seems a shallow philosophy to resolve our convictions of duty into our desires for happiness.

A Moral Sense.—Some writers hold that man has a moral sense by which he perceives the right and wrong. As we have the sense of sight by which we perceive color, and the sense of hearing by which we perceive sound, so we have a sense whose office it is to perceive moral distinctions or ethical qualities in actions. This theory was suggested by Shaftesbury, and developed by Hutcheson.

Objections.—There are serious objections to this theory. First, the term "moral sense" is ambiguous. If it means a sense like sight and hearing, then it is positively absurd, for there is no such organ of sense in the body, like the eye or ear, for moral perceptions. Second, if it means some function of the sensibilities, a susceptibility of the emotional nature by which we feel the right and wrong, it is also incorrect; for this would make morality a *mere sentiment*, a mere subjective affection, similar to sound and color, which are mere sensations. Third, it would make morality merely relative, and not a real quality of actions. Right and wrong, virtue and vice, justice and injustice, would lie merely in our feelings, and have no objective and independent existence. If by moral sense, we mean a power by which the mind cognizes right and wrong, then the view is not incorrect, though the term "moral sense" is inappropriate.

The Correct View.—The correct view of the origin of the idea is that which we have already presented. The idea of the right is an intuition; it is the product of the reason. It springs up spontaneously in the mind on the contemplation of moral actions. We find ourselves, from earliest childhood, making moral judgments; and a moral judgment involves an ethical idea. This idea must precede and be the basis of a moral judgment. This is the opinion of Kant, Coleridge, and the most of our modern thinkers, except those of materialistic views.

Idea Modified.—The idea of the right is modified by all the influences which are referred to in the other theories. Thus education, law, association, sympathy, etc., all modify these ideas and the application of them. Perhaps, too, the principle of heredity, recently introduced into the question by the theory of evolution, should also be taken into account as a modifying influence. But this modification is quite a different matter from the origination of the idea, and cannot account for the existence of the original cognition of the right. To modify and shape an idea already existing is quite a different thing from the origination of this idea.

THE NATURE OF CONSCIENCE.

The moral nature of man is usually treated under the term *Conscience*, and we now proceed to inquire what is meant by Conscience. The term conscience has been used in various senses by different writers. Some make conscience entirely intellectual, others purely emotional, and others again partly intellectual and partly emotional. In order to determine precisely what is meant by conscience, we shall call attention to the elements involved in the moral sense. A careful analysis will show that there are two elements, an intellectual and an emotional element.

Intellectual Element.—In contemplating the actions of rational beings, several cognitions arise in the mind. First, there is the cognition of the rightness or wrongness of the act. This cognition of the right is immediately followed by another cognition, that of *obligation;* we realize that we *ought* to do the act which we cognize as right, and *ought not* to do the act which we cognize as wrong. This is the idea of *obligation,* the idea of the *ought* and the *ought not.* This idea of obligation is immediately followed by a third cognition, that of *merit* or *demerit,* merit in doing the right and demerit in doing the wrong. The doer of the right is regarded as virtuous, and is approved; the doer of the wrong is regarded as sinful, and is condemned. Here are three distinct and allied cognitions with respect to a moral action, each attended by a corresponding judgment.

Emotional Element.—Each one of these three cognitions is attended with an act of the sensibilities. The pure cognitions of the right and wrong are accompanied by a slight feeling of pleasure or its opposite. The cognition of obligation to do or not to do is immediately followed by a strong *feeling of obligation* to do or not to do. The idea of merit or demerit attaching to the actor awakens two deep and kindred feelings. First, we have a feeling of *complacency* when we have done right, and a feeling of *remorse* when we have done wrong. Second, we have a feeling of approval of the right actions of another, and a feeling of disapproval of his wrong actions.

Relation of these Elements.—Both of these elements, the intellectual and emotional, are involved in what we call our moral sense. There are three distinct cognitions; and each of these is attended with the corresponding emotion. The feeling growing out of the cognition of right and wrong is not very prominent as compared with the other feelings, and need not be particularly noticed. The feelings growing out of the second and third cognitions are deep and moving, and so strong sometimes as to conceal or eclipse the cognitions, so that these elements are often spoken of as mere feelings. The second and third cognitions apply both to ourselves and to others, are both subjective and objective, and the corresponding emotions refer also to ourselves and to others.

What is Conscience?—Now, what is Conscience? Having seen the elements embraced in the moral sense, we inquire how many of these are included in what we call conscience. Is conscience purely intellectual, is it purely emotional, or is it partly intellectual and partly emotional? If intellectual and emotional, does conscience perceive the right? or does it begin its operations after the cognition of the right and wrong, and include only the two cognitions of obligation and merit or demerit, with the corresponding emotions? In other words, is the office of cognizing the right included in conscience, or does its office begin after this cognition?

Answer of the Question.—Upon these questions philosophy seems not to be quite settled. Locke says, "Conscience is merely our judgment of the moral rectitude or turpitude of our actions." St. Augustine says, "It is a particular manner of feeling which corresponds to the goodness of moral actions." Dr. Crombie says that the office of conscience is "to approve of our own conduct when we do what we believe to be right, and to censure us when we commit whatever we judge to be wrong." Rev. Joseph Cook seems to restrict the action of conscience to the motive, defining it as "the power which determines the moral qualities of a motive." He says, "Conscience is the perception of right or wrong in motives, and a feeling that the right ought and the wrong ought not to be chosen by the will."

The Correct View.—Among so many different and conflicting views, it is a difficult and delicate matter to decide. One thing, I think, is clear; the power of conscience is partly intellectual and partly emotional. Another point seems evident, that one of the most prominent elements is that of the *ought* and the *ought not*, and the corresponding ideas of *merit* and *demerit*. These ideas are accompanied by their corresponding feelings, which seem also to be elements of conscience. If this is so, would it not be best to leave the cognition of the right by the reason outside of the sphere embraced by the term conscience? Especially so, also, since we so often see men equally conscientious in the discharge of their duty, who take such different views of what is right. This is the decision to which a very careful consideration of the subject has led me.

Definition of Conscience.—Conscience is the power by which we know and feel that we ought to do what we think to be right, and ought not to do what we think to be wrong. It also cognizes merit and demerit, feels satisfaction for virtuous conduct and remorse for guilt in respect to our own actions, and approves or disapproves the actions of others. By this view conscience *cognizes* the *ought* and the *ought not* and the *merit* and *demerit* of actions. It also *feels* the *ought* and *ought not*, and experiences the emotions corresponding with the ideas of merit and demerit, with respect both to ourselves and to others.

Nature of this View.—In this view of conscience the element omitted is that of the cognition or apprehension of the rightness of any given action. This cognition is left to the reason, where it actually belongs; as it is a rational cognition, whether we bring it under the conscience or not. This view of conscience removes several difficulties that have been inseparably connected with its use and philosophical discussion. If any one teaching or studying this work, thinks it would be better to include the element of the cognition of the right in the conscience, the definition can easily be modified so as to embrace it.

Nature of Ethics.—This view of conscience gives it a distinct and definite place in the science of Ethics. The science of ethics is in some respects similar to that of geometry. In geometry we have first an intuitive idea of extension; then the intuitions of special forms of extension, as a line, a circle, etc.; then we have intuitive truths called *axioms;* and then, by reasoning from these intuitive truths, we reach the conclusions or theorems of the science. So in ethics we have a similar combination of ideas and truths. First, we have the general idea of the right. Second, we have an idea of particular forms of the right; as, veracity, honesty, etc. Third, we have certain axiomatic principles, as "to tell the truth is right," "to cheat is wrong," etc., which may be called *moral axioms.* From these as a basis we can derive other truths, and thus build up the science of ethics. Of course the demonstrations and applications of the principles of right are much more difficult than the reasoning of geometry, because the right is often so complex as involved in the circumstances.

Relation of Conscience.—This perception of the right and the unfolding of the science by judgment and reasoning do not belong to conscience; they are acts of the reason and understanding. Following these conceptions and axioms and demonstrations comes the action of conscience. Knowing what is right, conscience urges us to do the right and to avoid the wrong. The conscientious man is not one who has the clearest apprehension of the right or who can reason best in respect to it; but one who is most anxious to follow the dictates of his judgment and to do what he believes to be right. The ignorant man who has very narrow ideas of duty, the bigot who can see only one path of rectitude—these may be as truly conscientious as the most enlightened and broadest-minded Christian.

Diversity of Moral Judgments.—This view of conscience accounts satisfactorily for the diversity of moral judgments. This diversity may result from any one of several causes. Men may not see the action under the same circumstances or relations, and thus not be in the condition to make the same cognition in respect to its ethical quality. Or, they may not reason in the same way, and thus make a different application of the fundamental principles of right and wrong, and hence reach different conclusions. In both cases they may be equally conscientious in respect to doing what they think to be right, or in avoiding what they think to be wrong. The difference is not in their consciences, but in their perception of the right.

Extent of this Difference.—These differences in the perception or cognition of what is right are often very marked. Thus what one approves another often condemns. The Spartans taught their boys that it was right to steal, provided they were not detected in it. The savage seems to think it is right to scalp his enemy, and even roast and eat him. The very crimes of one people may be the religious rites of another people. These differences, however, are easily accounted for. In many cases, certain acts are mere habits, done without any thought of right or wrong. In other cases, a misconception of one duty overshadows another duty, as in the case of sacrificing human lives to the gods. Believing such sacrifices commanded, the heathen surrender a lower duty to a higher one. The idea of the right is often so involved in circumstances that it is difficult to obtain a clear notion of it, and to see the act in its own light and judge it accordingly.

A General Uniformity.—The difference in the perception of the right, however, is not so great as may appear at first thought. There is really a general uniformity in the moral perceptions of mankind. In the cognition of the fundamental principles of right and wrong, and the application of those principles to the ordinary actions of mankind, there is very little disagreement. All people agree that to tell the truth is right, and to lie is wrong; that honesty is right, and fraud is wrong; that deeds of kindness are right, and murder is wrong. They may differ in the application of these principles, as they do in the application of other principles; and the occasion for difference is greater here than in most other subjects, as the right is involved in more complicated circumstances than any other idea or attribute.

The Relation of Motive.—For the actions of each individual, the motive determines the right. If we do what we conscientiously think to be right, that to us is right—or, at least, we are innocent of doing wrong. This makes a distinction known as the *absolute* and the *relative* right. According to this distinction, a person may do an act which is contrary to the absolute principles of right, and yet not be guilty of doing wrong. The act may be relatively right to him, though absolutely wrong. Thus a man may tell that which is absolutely false, and yet, supposing it to be true and designing to tell the truth, it is not a falsehood to him. He is not guilty of deception, but is only mistaken. So a man may take the life of another by accident, and though he has actually broken the law which says "Thou shalt not kill," he is not guilty of murder. This distinction, that the motive decides the moral quality of an action, is acknowledged by nearly every class of thinkers; though it is a principle that must be applied with caution, as it may lead to dangerous conclusions in ethics.

Is Conscience a Safe Guide?—The question, Is conscience a safe guide? should be answered according to our conception of conscience, and our idea of a safe guide. If we take the view of conscience, that it begins with the cognition of obligation, and does not include the cognition of the right itself, then it is always a safe and a correct guide. If conscience is regarded as a power that perceives the right, then it is not always a correct guide, for men often err in their moral perceptions and judgments. If in the expression a "safe guide" we do not mean a *correct guide*, then we may say that even according to this latter view of conscience, it is a safe guide. The man who follows his conscience is usually in the path of duty. Indeed, it would be a strange rule of morals to advise that a man should not follow his conscience.

A Correct Conscience.—The conscientious man should be careful to see that his idea of right is correct. A man is often responsible for his mistakes in moral judgment. Paul, who thought he ought to do many things contrary to Jesus of Nazareth, is a notable example of a conscientious man who did what he afterward believed to be wrong. His error lay, not in following his conscience, but in not examining the teachings of Christ more carefully, and forming a correct judgment in respect to His doctrine. A conscientious man is thus often responsible for his erroneous opinions of duty. He has neglected to investigate the matter as he should have done; and should be held responsible for this neglect, and for the error in his moral perceptions flowing from it. So also is the man responsible who confounds his conscience with his feelings, and does what he thinks is right, which is really what he feels is agreeable. The conscientious man should be as careful in determining what is right as he is in following the right after he decides what it is. Conscience thus applies to the forming of moral judgments, as well as to doing moral actions.

CHAPTER V.

CULTURE OF THE INTUITIONS OF THE TRUE.

THE Reason, or Intuitive Power, is the crowning element of the human mind. Here we rise into the sphere of rationality, and conceive of man as a centre and source of eternal and necessary truth. From the depths of the spiritual nature come welling up ideas and thoughts which glow, like the pearls of the ocean, with an immortal radiance. The reason arches over the other faculties of the mind, as the blue sky arches over the earth; and in it shine the golden stars of eternal and heaven-born truth.

Difficult of Culture.—This faculty is not only higher than all the other faculties of the mind, but its training and culture are more difficult. The other faculties are developed by exercise; this faculty is not under the control of the will, like judgment or memory, and is therefore not so readily brought into exercise. The intuitive faculty is not so much an activity as a spontaneity; and it is thus developed naturally by its own spontaneous evolution of ideas and truths. The most we can do for its culture is to furnish the occasion for the cognition of truth, and by such cognitions its eye becomes brighter and its vision clearer and stronger.

It Can be Cultured.—The faculty of Reason, though spontaneous in its actions, will however admit of culture. It begins its operations early in life; though there is a vast difference between the intuitions of childhood and of manhood. The cognition of truth by the adult mind is much clearer and higher than that of the child mind. There is also a large difference between the intuitive cognitions of the ignorant, uncultured savage, and of the refined and cultured philosopher. The study and attainment of truth, the grasp of philosophical principles, and the refinements of thought and feeling of a civilized life, have given the occasions by which the insight of the reason into truth is much deeper, and its grasp of intuitive ideas much broader.

Methods of Culture.—The manner of giving culture to this faculty is intimated in this statement. The eye of intuition grows clear with the development of the human mind; hence all mental development tends to develop the reason. It evolves its ideas and truths on the presentation of suitable occasions; hence the occasions for its activity should be frequently presented. The familiarity with truth of all kinds, by its refining and elevating influence on the soul, gives deeper insight into the fundamental principles of truth; therefore all philosophic and thought culture will tend to give culture to the reason.

Divisions for Culture.—All the products of the reason may be embraced under three general heads, the True, the Beautiful, and the Good. The products under each one of these heads are of two classes, *ideas* and *thoughts*. Each intuitive truth involves one or more intuitive ideas, and grows out of these ideas: the idea is the basis of the truth, and gives rise to it. We shall therefore restrict the discussion mainly to the development of these ideas, as the truths will naturally follow the ideas. The culture of the intuitive power thus naturally divides itself into three general divisions; the culture of the Intuitions of the True, the culture of the Intuitions of the Beautiful, and the culture of the Intuitions of the Good. Though shrinking from the attempt to give any discussion of the cultivation of this divine faculty, which needs the pen of inspiration to treat it properly, I shall present a few suggestions for its culture under the three heads named. In this chapter I shall treat briefly of the culture of the *Intuitions of the True.*

Intuitions of the True.—The ideas of the True are those of Space, Time, Number, Identity, Cause, Infinity, etc. These ideas spring up early in the mind on the presentation of suitable occasions, and but little direct effort need be made for their culture. Clearer and more definite conceptions of these ideas will be obtained, however, by their frequent contemplation and an attempt to analyze or define them. The general principle for their development is that suitable occasions be presented for the reason to unfold them. Questions by the teacher on their nature will aid the pupil in a fuller and clearer development of these ideas and a better comprehension of their nature.

Intuition of Space.—The intuition of Space arises early in the mind. The first perception of it is in the concrete; that is, in connection with material objects occupying space. Through touch we cognize an extended body capable of resistance, and through the eye we see an extended and colored surface. The idea of space, however, is not given by the sense, but by the eye of intuition, that lies back of and works with the eye of sense. The perception of space in objects is merely the occasion by which the general idea of space is unfolded from the mind. The early appearance of the idea in the mind suggests the early study of geometry by the child. The study of geometrical figures will accustom the mind to pass from the conception of occupied to unoccupied or pure space, and will enable it to conceive of the possible forms of space. Questions on the nature of space, on the truths that arise out of the conception, and on its importance, will also be appropriate.

Intuition of Time.—The intuition of Time is also early developed in the mind. Its basis is the successive experiences of consciousness in the succession of events. We perceive events as before and after; and though we have no sense-perception of time, the idea arises spontaneously in the mind through the experience. Time is necessary in the conception of events as successive; hence the idea first appears in the concrete, associated with events. We can, however, think of the time as different from the event which occurred in time, and thus attain to the true or abstract notion of time. The element of time in the concrete event is given, not by sense, but by intuition; we see the event as external, and the mind supplies the element of time. Subsequently intuition lifts up the idea out of all sense connection, and thinks of it as the grand condition of events, without beginning or end. A few examples and questions may aid this development; but nature takes care of herself in this higher activity of the soul. It will be suitable, however, to lead the pupil to a clearer appreciation of the infinitude of time,—a cognition incomprehensible, but necessary and uncontradictable.

Intuition of Number.—The intuition of Number is also an early conception of the mind. The mind sees the objects through the sense; and in connection with this sense-experience there springs up in the mind the idea of the *one* and the *many*, of unity and plurality. All the different numbers are thus the products of intuition. These ideas arise first in the concrete; we begin by numbering objects. The mind then withdraws this idea from its idea of objects, and thus number in the abstract becomes a distinct cognition of the soul. The only suggestion for the culture of intuition in this respect is to furnish the occasion for the operation of the intuitive power. The grasp of numbers can, of course, be largely increased by practice and study; and the study of the science of numbers gives increased breadth and clearness to our numerical cognitions.

Intuition of Cause.—The intuition of Cause also makes an early appearance in the mind. The little child's questions,—What makes this? and What makes that?—show that it very soon perceives the relation of cause and effect. The idea is not the result of philosophy, for it is as strong among savages as among civilized men. As previously shown, it is not merely the perception of antecedence and consequence, for no number of such relations, however invariable, will give the idea of cause. The idea springs up native in the mind on the perception of change or the appearance of an event. As soon as we see some change take place or something come into being, we immediately look for the cause which produced the change or effected the result. Thus sensible experience is the occasion of the origin of the idea; and therefore, in order to develop it, suitable occasions must be presented to the mind. The study of a branch like natural philosophy will tend to increase our grasp upon the notion of causation, and enable us to distinguish between the several kinds of cause. The mind may also be led along the chain of causation, until it reaches the idea of a First Cause and the logical necessity of its existence.

Intuition of Identity.—The intuition of Identity is not so easily developed in the mind, at least as a definite and clear cognition. It arises from the perception and comparison of objects. It is preceded, I think, by the ideas of difference and similarity; and from these the mind gradually passes to the notion of sameness or identity. From the identity of objects it passes to the conception of personal identity, or the sameness of the spirit. The mind has before it at every wakening moment, a cognition of a present self, and in the exercise of memory, a past self; and it knows that these belong to the same one self. Though the idea is slowly developed, the mind unconsciously acts in the light of it before it is clearly cognized as an idea. We do not mistake ourselves for some other person, nor confound our parents with the people around them; the idea is thus potentially active in us, regulating our conduct, even before it is distinctly apprehended as a cognition. All that can be done for its development is to supply the conditions for its appearance in the mind.

Other Intuitive Ideas.—There are other intuitive cognitions, as Equality, Power, Substance, Being, Whole and Parts, which we have not space to consider. These are developed in a manner similar to those already discussed. The presentation of suitable occasions, and the asking of appropriate questions, will enable the reason to unfold these ideas which are the condition and source of all thought and experience.

Intuitive Truths.—The Intuitive Truths are too numerous to mention in detail. They accompany every one of the intuitive ideas, some giving more and others less of these truths. The most numerous are those of number and space; and the student gets culture in the development of these truths by the study of arithmetic and geometry. In mathematics we have two classes of intuitive truths, called axioms; those which pertain to quantity in general, and those which belong to specific forms of quantity. Of the former class we may name "Things which are equal to the same thing are equal to each other." Under the second class we name "Only similar numbers can be added," which belongs to arithmetic; and "All right angles are equal," which belongs to geometry. In the development of these sciences each new relation or conception of quantity is attended with some new truth of intuition. These truths are developed in the mind by the presentation of the proper occasion; and when they are somewhat recondite, their appearance may be aided by suitable illustrations.

Study of Science.—The cognition of the True is developed by the study of science. Science discovers truth; but intuition perceives the truth of its principles. Judgment gives a proposition; the truth of the proposition is seen by the reason. The understanding draws a conclusion from premises; intuition sees the truth of the derived proposition. So all science tends to brighten and quicken the perception of the true. Man grows in the appreciation of truth by the study of science. His soul, accustomed to the true, becomes wedded to truth; his affections go out towards truth; he builds his altars to the honor of truth, and becomes himself a worshipper of the divine attribute of truth. Familiar with the truths of science, his soul goes out in yearnings after the source of truth; and he thus rises in his conceptions from the natural to the supernatural, from the truths of science to Him who is the essence and embodiment of infinite truth, and is thus, in its highest sense, THE TRUE.

CHAPTER VI.

THE CULTURE OF THE INTUITIONS OF BEAUTY.

THE BEAUTIFUL is a divine attribute revealed to the higher reason. The intuitions of the reason in the sphere of the Beautiful, are of three principal classes; the *Beautiful proper*, the *Sublime*, and the *Ludicrous*. Each of these three classes of ideas is developed by the presentation of objects containing the æsthetic element. A few remarks on the culture will be made, showing the value of the beautiful or the value of æsthetic culture, and methods of giving this culture. The subject may be appropriately entitled *The Culture of Taste.*

I. VALUE OF BEAUTY.—This idea of beauty is of so much value to mankind that a brief consideration of the influence of the beautiful will give significance to the discussion of its culture, and tend to make teachers more careful to afford this culture to their pupils. The facts and truths of science are not the only things valuable in education, though this seems to be the popular belief. The mind grows in the appreciation of truth by feeding upon the true; but the soul has other appetites than those for truth. Beauty is food for the spiritual nature as well as truth; and the mind develops in its communion with the spirit of beauty. Art is an educating influence as well as science; and some of the richest products of the soul spring from the culture of the fine arts and the element of beauty which they embody.

Refines the Mind.—Beauty refines and elevates the mind. The element of beauty breathes of the spirit of refinement. As the sunlight comes beaming out of the depths of the pure blue heavens, and illuminates the world, so the spirit of beauty carries with it purity and refinement. The mind that is susceptible to the beauties of nature and art, intuitively turns away from all that is coarse or vulgar, and sympathizes only with that which is refined and elevated. "There is no more potent antidote to low sensuality," says Schlegel, "than the adoration of beauty." A taste for pictures, for poetry, for music, etc., will unfit a person for the enjoyment of the dirt of the drinking saloon, or the vulgar wit and ribald jest of the uncultured crowd. A beautiful home, with its refining influences, tends to infuse a spirit of refinement in the mind that lifts it above the grossness and coarseness of vice and physical indulgences. Beauty is the light of the world of thought and feeling; and the soul grows and refines in this light as the lily refines in the sunlight of day.

A Source of Enjoyment.—Beauty is a source of enjoyment. One of the purest and most exquisite pleasures comes from the communion with the works of nature and art. The soul thrills with an exquisite delight as we read the tender sonnet or sublime epic, stand in the frescoed halls or galleries of paintings, or listen to the combined voices of man and instrument in the opera or oratorio. To one who has a heart to appreciate the productions of art, they are a source of the purest and highest delight that the human heart can experience. So also may we derive enjoyment from the beauties of nature. Here is a well-spring of joy which is never dry. The tender light of the auroral dawn, the liquid depths of the blue sky, the fleecy clouds floating above in wondrous variety of form, the pure white lily or blushing rose of the garden, the modest forget-me-not of the shady forest, the songs of birds trilling on the air,—all these are, to the soul that can feel them, the source of a pleasure beyond words to express.

Adorns Lowly Objects.—Beauty gives interest to the lowliest objects of life. It casts a charm around ordinary events and incidents, and plants flowers along the pathways of our daily life. We need not go to halls of statues and galleries of pictures to find this element; it is a spirit that fills the world with its presence. Wordsworth voiced a universal sentiment when he wrote "To me the meanest flower that blows can give thoughts that do often lie too deep for tears." Burns at the plow could find a theme for the exquisite lines on the daisy,—"Wee, modest, crimson-tipped flower." The cot may be never so lowly, but a few flowers in the window, some wreaths of autumn leaves with their rich colorings, and a tasteful arrangement of the rude furniture, will make it seem as attractive as the palace of a king. It is the mission of the beautiful to raise up the lowly things of life, and enrobe them with that ethereal spirit of beauty that shall make them a source of delight to the heart.

Leads to Morality.—Beauty leads to morality and virtue. The love of beauty refines the mind and attracts it into the paths of purity and virtue. The perception of beauty in the physical world leads to a love of moral beauty; and a love of moral beauty leads to virtuous actions. The mind that is susceptible to external beauty, that delights in the beauty of color, form, and tone, will naturally be open to the influences of morality, for *virtue is moral beauty.* Conscience and taste are so related that they have a reciprocal influence upon each other. Many persons do right from the love of the beautiful which they perceive in moral action, aside from the incentives of moral obligation. "Vice is a monster of such hideous mien" that we shun it on account of its deformity; the goddess of virtue, radiant with celestial beauty, entices us into the paths of purity and holiness. Beauty is thus a minister of virtue, and tends to purify the heart, ennoble the aspirations, and dignify the life.

An Aid to Religion.—Beauty is an aid and an incentive to religion. The beautiful in the world is a divine presence, and leads the soul toward the ineffable beauty of its author. All radiant with the glory of the skies, it turns the mind upward towards the source of eternal and heavenly beauty. The beautiful is thus one of the ladders on which the soul rises towards the pure and heavenly. "In days of yore," says Schiller, "nothing was holy but the beautiful." The mother church has understood this ministry of the beautiful, and employed it for deepening religious feeling and devotion. Painting, and sculpture, and architecture, and poetry, and music, have all been enlisted in the interests of religion. It is in the service of religion, too, that art has achieved its highest triumphs. The most beautiful frescos are those of Raphael and Michael Angelo; the noblest specimens of architecture are found in the cathedrals, and the grandest musical compositions are the sacred fugues of Bach and the oratorios of Haydn and Handel.

Not Identical with Religion.—The Beautiful is not, however, identical with Religion. The love of the beautiful will not, of itself, make us holy. Had Raphael been morally what he was æsthetically, even Christ himself would almost have had a rival in virtue. The theology of the Greeks was distinguished alike for its beauty and its imperfections. It presented the finest type that the world has known of a system of ethics founded on the beautiful, but failed because beauty and piety are not identical. True religion must be founded on the religious nature rather than on the æsthetic. Piety and beauty may, however, go hand in hand, for the highest beauty on earth is Christian piety. The noblest manhood is Christian manhood; and the most beautiful womanhood is Christian womanhood. The spirit of the beautiful may therefore unite its attractions with the spirit of the good and enhance its glory, as clambering vine-leaves adorn Corinthian columns and Gothic arches.

II. CULTURE OF THE BEAUTIFUL.—The value of the beautiful being thus apparent, we pass to the consideration of the culture of the intuitive power in the sphere of the beautiful. The general principle of this culture is to give the mind exercise in the perception of beauty. As the memory is cultivated by remembering, so the perception of the beautiful is developed by the contemplation of beautiful objects. This exercise can be given by both the objects of nature and the productions of art.

1. Culture from Nature.—The perception of the beautiful is cultivated by the observation of natural scenery. The soul rises in its perception and appreciation of the divine element of beauty by becoming familiar with the beauty and sublimity of nature. Here we possess a source of culture accessible to every mind; nature's galleries of beauty are free to all that will take the trouble to visit them. We can see this ethereal spirit of beauty blooming in the flower, twinkling in the star, trilling in bird-songs, and shining in the myriad-hued sunsets. It sighs in the zephyr, chatters in the streamlet, laughs in the cascade, roars in the cataract, and howls in the tornado.

Nature Full of Beauty.—Nature is a master artist, and has embodied the spirit of beauty in all her works. We can see it in the morning sunlight kissing the cheeks of dew-gemmed flowers; in the evening twilight that, like a silver clasp, links the day and darkness; in the morning star that heralds the rising sun, or in the star of eve that glitters like a diamond upon the brow of night; in the azure sky above, fretted with fleecy clouds or spanned by the rainbow's graceful arch; in the smiling valley at our feet, dotted with cozy hamlets or ribboned with crystal streamlets; and in the broad expanse of old ocean, as it blends with the sky and vanishes in the hazy distance. We can hear it in the vocal woods of spring-time, in the whispering of evening zephyrs, and in the green valley where the silver stream

"Babbling low amid the tangled wood,
Slips down through moss-grown stones with endless laughter."

2. Culture from Art.—The works of art also afford a means for the development of the æsthetic nature. The fine arts are the embodiments of the beautiful, and thus furnish occasions for the perceptions of beauty and models for the culture of correct ideals. The principal of these arts are Poetry, Painting, Sculpture, Music, and Architecture. A few words in respect to the culture afforded by each of these will be appropriate.

Culture from Poetry.—The perception of the beautiful may be cultivated by reading poetry. The element of beauty is largely embodied in poetic composition. Poetry has been expressively defined as "a rhythmical creation of beauty." The bright visions of loveliness that rise in poetic minds have been embalmed in immortal verse, and give inspiration and shape to the visions of the thousands who read them. The mind awakens to beautiful conceptions by communing with the souls who seemed to have caught visions of the ineffable beauties of the heavenly land. The flame of beauty glowing in the poet's line kindles the flame of appreciation in the minds of his admirers, and fills them with the sweet emotions that awaken dreams of unearthly loveliness.

Select Authors.—Care should be taken to select those authors who present the best models of taste. The works selected should be adapted to the age and development of the student. The child can not appreciate the higher imaginings of Milton and Shakespeare, but will follow with delight the simple lines of Scott and Longfellow. The coarse and impure productions of genius should be carefully withheld from the young; and after their tastes have been moulded by the refinements of literature, they will turn with disgust from the corrupting pages of such writers as Byron and Swinburne. The beautiful passages of imaginative prose may also be used for æsthetic culture. The mind of the child, filled with jewels of thought set in golden expressions, will grow in refinement and in appreciation of the all-pervading presence of the beautiful.

Culture from Music.—This æsthetic culture is also given by the study of music. Music is beauty expressed in the melody and harmony of tone, and is thus adapted to train the mind to the perception and appreciation of the beautiful. We should begin the culture with the use of the simpler melodies of a Bellini or a Donizetti, pass to the simpler harmonies of the old chorals and sacred hymns, and at last rise to the comprehension and enjoyment of the sonata and oratorio, or the grand harmonies of the full orchestra. This culture can be obtained in the home circle, the singing school, the musical society, the concert, and the opera. Every home should be provided with an organ or piano; and the voice of singing should rise, like a sweet incense, from every family altar. Home can be thus made attractive, the taste of its inmates refined, and the soul enticed into the paths of purity and virtue.

Painting and Sculpture.—The productions of painting and sculpture should also be used for giving culture to the æsthetic nature. Here we find the embodiment of the most beautiful ideals of form in the purity of marble or the richness of color; and these high ideals of transcendent genius train us to a familiarity with the highest types of beauty. It will not be convenient for every one to visit galleries of art, but by photograph and engraving we can become familiar with the masterpieces of painting and sculpture in the world. Subsequently, if an opportunity comes to see the originals, there will be an added interest and a higher appreciation, as we stand thrilled with the spell of fascination before the immortal paintings, frescos, and statues of the masters of art.

From Other Arts.—The arts of architecture, landscape-gardening, etc., may also aid in the development of the æsthetic nature. Models of the various styles of architecture in the mind give an appreciation of symmetry and proportion in buildings. Familiarity with artistically laid out grounds, such as we find in some of our public parks, and around a few private homes, cultivate the taste and suggest how we can make our homes attractive. It is the mission of art of every kind, not only to give pleasure to the mind, but to cultivate in it purer ideals and a higher appreciation of the beautiful, and thus contribute to this higher culture of the soul.

3. In Several Studies.—There are several branches of knowledge which aid in the culture of the intuitions of the beautiful. The most important of these are Æsthetics, Rhetoric, and Literary Criticism, and the principles of Painting, Sculpture, and Architecture. These studies deal with the principles of beauty, enable us to see where they are violated or conformed to in works of art, and thus quicken and improve our ideas of the beautiful.

Study of Æsthetics.—The perception of beauty can be heightened by the study of the principles of beauty as presented in Æsthetics. Intuition is not a blind goddess; it is a spontaneous activity; but it can grasp broad principles and operate in the light of them. The intuitive power comprehends the great laws of beauty, and when familiar with these its cognitions are true to the perfect ideals. Fashion and habit, though they cannot change, tend to warp the action of this faculty; and it needs the guiding influence of great laws of beauty to keep it true to its own native conceptions. Surrounded by the sanctions of law, it is more confident in its assertions; raised upon the high plane of æsthetic principles, it has a broader sweep and a clearer insight, and can catch defects and perceive beauties that elude the untrained faculty. We recommend, therefore, for the training of this power, the study of the great laws of beauty as presented in our treatises on æsthetics.

Study of Rhetoric.—In the study of Rhetoric we become familiar with the principles of literary composition, and are thus enabled to perceive the graces of literature that might otherwise escape our notice. We can learn to look below the surface, and not be deceived by the false glare and tinsel of poetic composition. It enables us to separate the dross from the gold, to distinguish between what is merely meretricious in ornament, and what is in accordance with good taste, and to be able to sit in criticism on the products of literary genius. It will also enable us to avoid violations of the canons of taste in our own literary composition. A better knowledge of the principles of rhetoric would have saved the pages of some of our greatest poets from an occasional blemish; Shakespeare, with all his native genius, slips, now and then, into errors of no trivial character.

Principles of Other Arts.—The principles of all the arts may be studied to advantage for the culture of the intuitions of the Beautiful. A knowledge of the laws of painting, or sculpture, or architecture, will enable us to see higher excellencies in those arts, and to appreciate them more fully. The reading of works of æsthetic criticism, such as Ruskin's, will afford the same kind of culture, and open the eye to the perception of graces and defects to which it would otherwise be closed. It will give one the power to see a meaning in a tint, a shade, or an ornament, where before it saw only color or stone. Such works seem to infuse the spirit of beauty throughout the soul; and intuition is affected in its action by such infusion and the inspiration which attends it.

In Human Life.—In conclusion, we remark that we should endeavor to derive this culture from and embody it in human life. The highest beauty is that which belongs to conduct and character, and here we find one of the most important means of æsthetic culture. Man should endeavor to embody beauty in all that he does, and thus make life itself artistic. Our daily tasks should not be regarded as drudgery; they should be moulded by some ideal of excellence, and then the humblest occupation will become a pleasure to us. Moral action, patterned after a high ideal, becomes artistic; and we have the beauty of conduct. Character should be the development of ideals of excellence, and life itself become a fine art. Contemplating these models of excellence, we rise to a higher appreciation of that divine beauty which is above all, through all, and in all. We may thus come to feel with the ancients that the soul alone is beautiful; and in loving the beautiful, the soul loves its own image as there expressed. And as the soul is a reflection of the infinite mind, our highest admiration will be for the divine Artist in whom is the fullness and perfection of beauty, and who is thus THE BEAUTIFUL.

CHAPTER VII.

THE CULTURE OF THE INTUITIONS OF THE RIGHT.

THE Intuitions of the Good, or the Right, are the highest finite cognitions of the soul. All the intuitions of the Reason—the True, the Beautiful, and the Good—stand on the high plane of rational and transcendental knowledge. The conception of pure truth lifts the soul far above the cognitions of sense. The perception of the Beautiful is a more refined, if not a nobler conception than that of the True, and touches a larger part of our nature, as it involves an act of the sensibilities. The idea of the Good, however, is a grander and nobler conception than either that of the True or the Beautiful; and it brings into action the entire spiritual nature—the Intellect, the Sensibilities, and the Will. In its highest manifestation it rises into the sphere of the infinite in the cognition of *The Good* or GOD.

Division for Discussion.—The intrinsic excellence of this idea and its far-reaching influence on the character and achievements of mankind, lead me to hesitate to enter upon the discussion of its culture. What is here presented has been written with a deep sense of the inadequacy of the treatment, and with the hope of giving a fuller and worthier development of it in some other work, at some future time. The subject is here treated under four heads; the Nature of the Culture, the Importance of the Culture, the Principles of the Culture, and the Culture of the Different Ideas and Duties.

I. NATURE OF CULTURE OF MORAL IDEAS.—The moral ideas, though given by the reason, will admit of assistance in their development. This is especially true in respect to the different specific forms of the general notion of the Right. All persons have a general notion of moral distinctions; but the cognition of the specific forms of the Right is largely due to culture and education. The moral ideas, in this respect, are similar to those of space. Intuition gives us the general notion of space; and by intuition also we can attain to all the possible forms of space, as *lines, triangles, circles*, etc. The mind, however, is greatly aided in conceiving these geometrical forms by models, pictures, descriptions, etc. Illustration, also, though it does not originate, greatly facilitates the development of the axioms of mathematics in the mind. The same thing holds true in respect to moral ideas and truths. Indeed, the moral ideas being so much more complex than the idea of space, the influence of education in developing the particular forms of the right, is still more important than it is in developing the forms of space.

The Ideas to be Developed.—The general ideas to be developed are,—first, the general notion of *the right;* second, the general notion of *obligation;* third, the idea of *merit* and *demerit* in respect to moral action. The idea of the right will include many forms of the right; the idea of obligation will apply to each one of these specific forms of the right; and the idea of merit and demerit will apply to all actions in respect to each cognition of duty.

Idea of the Right.—The idea of the right is more difficult to develop than any other intuitive idea. This results from several causes. First, the right is more complex than any other cognition of the mind. It is not always revealed by the action, for the same act may be right or wrong, according to circumstances. The right lies largely in the motive; and yet not entirely so either, since we cannot always justify wrong actions by good motives. Besides, too, our selfish interests and feelings often collide with the right and blind us to the clear cognition of duty; indeed, they are so strong that we sometimes think the right wrong and the wrong right. It often needs the eye of reason to be unclouded by the feelings, and to act in the pure, clear atmosphere of truth in order to discern the path of duty. If our feelings are correct, they work in unison with intuition, and thus aid in the clear perception of the right. It is thus evident that it needs the utmost care and the most delicate culture to unfold this idea of the right in the human soul.

Idea of Obligation.—The idea of obligation is not so difficult to develop as the idea of the right. Given the cognition of the right, and there is little difficulty in awakening the cognition of duty in respect to the right. This idea is attended with a strong feeling, and the action of the sensibilities will assist in the development of the cognition. We must, therefore, awaken the feeling of obligation as well as the idea, in order to give a more definite conception of this idea. In this matter of morals, the head and the heart are very intimately related. There is a susceptibility to moral ideas and truths which seems to be partly intellectual and partly emotional; and the two work together in moral conceptions. The more tender the conscience, the clearer will the eye of reason appear, and the stronger and deeper the intuitions of the right and obligation.

Idea of Merit and Demerit.—The idea of *merit* and *demerit* follows the two previous cognitions, those of the *right* and the *ought*. These latter ideas are prospective in their action,—they are awakened in view of a possible act; the ideas of merit and demerit are retrospective in their action,—they follow the act to which they pertain. They grow out of the idea of the right, and thus depend for their clearness and strength upon the moral quality which we perceive in the action. The idea is also very intimately associated with the feeling of merit and demerit, giving a sort of moral susceptibility which is partly feeling and partly cognition. Indeed, emotion and cognition are so interwoven in the ethical nature that they seem almost to constitute a new faculty or power of the mind for the intuition of the right. It is intuition, interpenetrated with emotion, that gives us the clearest convictions of moral duties and their results to us. For the development of the conviction of merit and demerit, therefore, we must train the emotional element to act in harmony with the intellectual element.

Special Ethical Ideas.—The general idea of the right, as stated, embraces many special forms of the right, such as *honesty, veracity, obedience,* etc. These particular forms of the right bear the same relation to the general notion of the right, as the different forms in geometry do to the general idea of space. Out of this general idea of the right and these specific forms of the right grow certain principles of moral action which we may call the *moral axioms.* Thus having the idea of *truth* and *falsehood* and the *right,* there immediately arises the intuitive truth that *to speak the truth is right* and *to tell a falsehood is wrong.* These moral axioms have about the same relation to the science of ethics that the axioms relating to space have to the science of geometry.

Idea of Duty.—The ideas of the right and of obligation lead to another idea, that of *duty.* Each idea of the right, when accompanied with the idea of obligation, presents itself as a *duty.* The idea of duty is thus a complex cognition consisting of two cognitions, the *right* and the *ought.* It also implies a belief in the freedom of the will, though it does not embody an act of the will. This idea of duty leads to an act of the will; and when thus embodied in human action, we have *virtue.* Virtue is thus a trinity of elements; the *right,* the *ought,* and the *act* which embodies them.

The Different Duties.—The duties may be classed under three general heads; duties to *self,* duties to *others,* and duties to *God.* The duties to self are called Personal Duties. They include Control, Culture, Purity, etc. The duties we owe to others are called Relative Duties. They include Veracity, Honesty, Kindness, etc. The duties we owe to God are called Religious Duties. They include Faith, Love, Reverence, etc. The object of moral culture is first, to lead us to a clear idea of all these duties; second, to impress the obligation to do these duties; third, to lead to the actual development of these ideas in virtuous actions, and thus to develop manly and womanly character.

Duty and its Opposite.—Each one of these duties has its opposite; the good and the evil being related in opposite pairs. Thus we have the *right* and the *wrong*, *duty* and its *opposite*, *virtue* and *vice*. The doing of a duty is a *virtue;* the doing of its opposite is a *vice*. The mere omission of a duty is also a wrong; as, a lack of respect, or obedience, or kindness, or gratitude. A vice is thus a contrary to a virtue, and sometimes a privative of it,—a relation similar to that of positive and negative conceptions. The object of moral culture is to enforce the right and prevent the wrong; to lead the child to do the duty and avoid its opposite.

II. IMPORTANCE OF THIS CULTURE.—The importance of the moral idea will indicate the importance of moral culture. As it stands highest among our cognitions, so does its culture transcend that of every other cognition. As the idea brings into activity every part of our spiritual nature, so does the culture of intuition in the sphere of the Good affect man more profoundly than the training of any other faculty of the intellect. A few remarks will be presented to indicate the value of this idea and its development in the human mind.

To the Individual.—The cognition of the good gives highest dignity and glory to the soul. It does this, first, because it is the noblest attribute of man's nature. There is a scale of these higher ideas,—the True, the Beautiful, and the Good,—all of which give especial beauty and worthiness to man's nature. Of these three ideas, that of the Good stands the highest; it is the crowning idea of the soul; and its culture thus gives highest excellence and dignity to the spiritual nature. Second, it is also the basis of responsible action, and thus of moral character. It moulds man's thoughts and feelings, gives a spiritual worth and dignity to his actions, and is the basis of that spiritual entity which we call *character*. The highest product of man's life is *character;* and the essence of character is the moral element. From this it draws its inspiration and life; and in it the element of the good shines with an ineffable radiance.

In Personal Influence.—The idea of the right is the source of personal influence. The man who enthrones the idea of the good at the centre of his being, becomes the man of moral power. The words of such a man fall on the heart with an influence that no mere eloquence of language can give. The ancients were right in regarding moral character as one of the elements of an orator, for the words that come from a heart consecrated to the sentiment of duty seem to be charged with spiritual power. The moral idea gives a man's actions an influence they can derive from no other source. A man whose character is moulded around the idea of the good moves through the world like the sun in the heavens, giving light and influence wherever he goes. Washington was great, not as a statesman, not as an orator or writer of state papers, not even as a general; his greatness lay in his moral attributes, in his peerless character. Aaron Burr, with the rarest grace of personal accomplishment, with the silvery tongue of persuasive eloquence, and with a mind that grasped great questions and reduced them to simplicity, was shorn of his influence when it was known that he lacked moral principle.

Value to Literature.—The idea of the right is the source of what is best in literature. It is the informing principle of all that is most interesting or inspiring in prose or poetry. Take the idea of the right out of literature,—the struggle of the two moral forces in life, and the triumph of the good over the evil,—and we remove nearly everything that gives it value and interest. Omit this element in poetry, and though beauty might remain, the highest element of beauty is wanting; it has lost the warmth and glow of life, and remains but a cold, icy statue, without a beating heart or living soul. Oratory is grandest when, in earnest, burning words, the orator pleads for law, justice, and honor. Even fiction would lose nearly all of its charms did not the hope of a final adjustment of the moral forces, the punishment of vice and the reward of virtue, keep alive the interest in the development of events.

Value to the Arts.—The idea of the right is the highest inspiration to art. The æsthetic element is not sufficient for the greatest triumphs of the artist. The most celebrated paintings or works of statuary are not those that embody pure beauty alone, but those in which the moral element blends with the beautiful. The highest works of art are those related to religion, and religion is the moral element lifted up into the divine. The Madonnas and the Transfiguration of Raphael, and the paintings and statues of Michael Angelo, all embody some ethical or religious idea. The sublime statue of Moses, the fainting form of the Dying Gladiator, and the fearful group of the Laocoön, derive their power from the expression of a moral element. The grand cathedrals are the embodiment of the sentiments of aspiration and devotion, and seem to be shrines for the indwelling of the divine goodness. Music is never so grand as when, in organ symphony or majestic chorus, it strives to express the deep religious emotions of the soul.

Value to Society.—The idea of the right is the fundamental principle of the social organization. It is the central force that attracts men together and holds them in the bonds of social amity and peace. Without this idea, men might herd together like the brute animals; but the beautiful fabric of social life is quite a different thing from a herd of cattle or a hive of bees. The care for one another's rights and privileges, the acts of kindness and benevolence, the establishment of schools for the education of the young, the erection of asylums for the afflicted and insane, all the social institutions that give beauty and excellence and refinement to social life, have their origin in this idea of the right.

Value to the State.—The state is also a crystallization of forces around the idea of the right. The ethical sentiment is the tie that binds together the minds and hearts of men into the organic unity of government. Take the idea of the right out of the state, and it falls shivered into a thousand fragments. Each party rallies around some moral idea, and makes its appeal to voters in the name of some great principle of human justice. On this principle revolutions are organized, and governments revolutionized. Let any great wrong be perpetrated by the government or the party in power, and the people will rise in their might to overthrow it. The Revolution and the Civil War were both fought in the name of justice and human rights. All progress in government has grown out of a clearer apprehension of human rights and civil duties; and the ideal of the future is a government crystallized around the idea of complete and impartial justice.

III. PRINCIPLES OF ETHICAL CULTURE.—Having a clear conception of the nature of the ideas to be developed, we next inquire how these ideas are to be cultivated and the different duties inculcated. The work is delicate and difficult, and of great practical interest. The general method of development may be briefly stated to be by *precept*, by *example*, and by *habit*. That is, the moral nature may be developed by instilling moral axioms into the mind, by presenting examples of virtuous action, and by leading to the acquisition of habits of right conduct. A statement of these general principles in detail, with one or two others closely related to them, will be appropriate to the discussion.

Will Admit of Culture.—The moral intuitions will admit of culture and development. Though the idea of the right is an intuition, the clear and definite perception of moral ideas is largely aided by circumstances and education. Careful culture, though it does not implant the idea, will do much for its development. Careful training will make the eye for moral distinctions sensitive and bright; while neglect or evil influences will dull the perception and deaden the moral sense. A corrupt and degraded life, though it may not entirely destroy the power of perceiving moral distinctions, will blunt the moral perceptions and destroy that fine sense of duty that belongs to the virtuously educated mind. The demand for culture of the moral sense is greater than that of any of the intuitions, since the colliding influences of appetite and passion tend to lead us away from our ideas of the right, and subvert our conceptions of duty.

Should Begin Early.—The culture of the idea of duty should begin early in the life of the child. Its intuitive sense of right and wrong should be properly directed. The delicate perceptions of the young mind and the sensitive feelings of the young heart should not be blunted and warped by the influences of wrong precepts or vicious companions. Thought and feeling should both be attuned to the ideas of truth and goodness. The practice of right doing at this early formative period of life will become crystallized into habits and be fixed in the character. Moral culture should therefore begin with the intellectual life of the child, and be continued through its entire education. The young soul should be wedded to the principles of morality, so that its tastes and pleasures and longings are all in the direction of what is pure and virtuous.

Feeling With Cognition.—In the culture of the moral ideas, feeling should be blended with cognition. Conscience is a combination of intellect and emotion; and the two seem to combine in our convictions of moral duties. The moral feelings are an incitement to moral cognitions; they constrain and incite the intuitive power to action. Indeed, in these moral intuitions, as well as in the beautiful, intuition seems to become interpenetrated and suffused with emotion, constituting a moral sense or susceptibility for moral distinctions. The eye of the reason seems to grow brighter in its perceptions when illuminated by the flame of emotion kindled on the altars of the heart.

In the Concrete.—Moral culture should be given in the concrete. We need examples of virtuous actions, as an occasion for the development of moral distinctions in young minds. They need to see moral truth embodied in moral deeds in order to obtain a clear cognition of moral ideas. Let virtue embody itself in human form, and walk, talk, and act, and an impression is made that will manifest itself in the thought and conduct. Talk to a child of the beauty and necessity of truthfulness, and your words may fall on listless ears; but give him truth and honesty in action, and his mind opens to perceive and appreciate the right. The moral lessons for children should therefore be in the form of incidents of moral action. Christ set an example of moral teaching by his use of the parable in presenting the truths of the new gospel; and the teacher of morals should follow the example of the *Great Teacher.*

Example of the Teacher.—One of the strongest influences in the culture of moral ideas and duties is that which reveals itself in the daily life of the teacher. This moral influence, rising unconsciously out of the depths of his being and emanating from him as a kind of spiritual radiance, makes an imperishable impression. A lack of moral power in the teacher will be immediately felt by the pupils; and the profession or assumption of virtue without a reality at the heart, will but teach deceit and hypocrisy. When there is not a devotion to duty burning within the soul, all outward manifestations of it will be worse than worthless. At every point of contact with the teacher who is pure and noble at heart, the pupils will feel the presence and charm of a manly integrity, and be stimulated to virtuous thought and action.

Examples of Parents.—The examples of parents are especially powerful in moral culture. The strongest lesson in morality is the daily walk and conversation of upright and virtuous parents. The precept of father or mother may do some good; but the loving deed of the mother and the inflexible integrity of the father will do much more than their words. Parents should be careful to embody their precepts in their own lives. The real in parents begets a reality in their children; they are influenced more by what their parents are than by what they say. The parent who teaches one thing in precept and another thing in practice, need not be surprised if his children should be early skilled in fraud and deceit. For a father to tell his boy not to smoke, and have to take his cigar out of his mouth to do so, will not make a very deep impression in respect to the vice of smoking. The highest idea of duty lives in the heart and shines through us in our lives; and the parent who is true to a high ideal of purity and virtue will be a constant lesson, a living epistle of duty to his children.

By Literature.—Good literature is a strong influence for the culture of moral ideas and feelings. Here noble sentiments are expressed and deeds of honor and heroism are portrayed. Our sympathies are enlisted in favor of the right and against the wrong, and the heart throbs in unison with that which is pure, noble, and elevated. Here we learn to admire high ideals of character, and to form our own ideals of what we would like to do and become. Vice, too, is portrayed in repulsive colors, so that we turn away from it with instinctive hatred. Where the demands of retributive justice are satisfactorily met, as they should be in a work of art, the consequences of evil actions tend to deter one from a life of vice. There are works of literature, however, which do not possess these attributes, and become a source of degradation rather than elevation; and these should carefully be withheld from the young.

By History.—The study of history is valuable in developing moral ideas. History deals with the actions of mankind, and these actions contain a moral element. They reveal the motives which have inspired mankind, wherein dwells the idea of duty. The consequences of these actions also serve to cultivate our appreciation of the good and our detestation of the evil. The deeds of benevolence call forth our admiration and inspire us with a spirit of benevolence; the heroic actions of heroes and martyrs lift the soul up to a plane of moral feeling in which it also aspires to deeds of heroism. So also, on the other hand, the element of meanness in human action, the craft and falsehood of the unprincipled, and the corruption of the base and degraded, repel the soul and cause it to turn, with an instinctive dread or hatred of what is low and vicious, towards what is pure and virtuous.

By the Bible.—The book of books for the culture of the moral nature is the Bible. Here we have the finest precepts of virtue ever penned; and here we see some of the noblest ideals of human conduct and character. In this book we have the most impressive statements of the wages of sin; and here are portrayed the most striking examples and results of wrong-doing. Above all, it is in this book that, illumined with a divine morality and radiant with a celestial virtue, is portrayed the ideal man, full of grace and truth. Filling the hearts of the young with the golden precepts that fell from his lips, and implanting his character in their minds as an ideal of virtue, we have the strongest influence for the development of moral ideas and moral character.

Avoid Evil Influences.—An important thing in moral culture is to avoid evil influences. The soul can be stained or marred by sin; the moral sense can be weakened by contact with vulgarity and vice; the taste can be contaminated so that it will enjoy the evil rather than the refined and elevated. Evil influences seem to blunt the moral perceptions and seal the eye of reason. These influences, too, are so insidious in their nature that they steal in upon the soul, and stain it before we are aware of them. All such influences weaken our perception of the right and duty, and should be carefully guarded against in the moral education of the young. It may be well to allow the young to see a little of vice in its repulsive aspects; but this is doubtful policy. The method of the Spartans, who taught their sons temperance by making the Helots intoxicated, is questionable.

Moral Influences.—We should endeavor to surround the young with moral influences. The eye of reason for the perception of moral ideas, grows brighter with the purity of the soul. Whatever tends to purify and elevate the spiritual nature, seems to increase our spiritual perceptions. The more elevated the character, the broader and higher the grasp of the moral intuitions. As the ear, with musical training, becomes so delicate that it catches the slightest discord, so the conscience may be so delicately attuned to virtue that the slightest variation from it will break upon the moral sense like a discord upon the ear. By the refining influence of virtue, the conscience becomes so sensitive that the most delicate moral distinctions will be immediately seen and felt. Spiritual elevation carries with it additional spiritual insight; and whatever influences tend to purify the heart and ennoble the life, will aid in the culture of the intuitions of the right.

A Rule of Action.—The intelligent conception of moral action is aided by a clear conception of some broad and comprehensive *rule of right*. Such a principle will answer the questions, —Why is this action right? why is one course of action to be taken instead of some other course? There are several such rules which will guide us practically in moral action. One is the simple principle of right; a thing should be done *because it is right*. Another principle is that an action should be performed *because it secures the best interests of all concerned*. Another rule in respect to our actions to others, is that *we should do as we would be done by*. Dr. Hickok's rule of "spiritual worthiness," though I do not regard it as an "absolute rule of right," is one of the most elevated and practical that has ever been announced. The principle is that I should do an act *because it secures my own spiritual worthiness*. To know that it is worthy of the soul and gives spiritual dignity, is my sanction for the correctness of my actions. It is equivalent to a high *self-respect;* and the law is that a thing is right which enables the soul to respect itself. Such a rule as this tends to reinforce our intuitive conception of the right, and gives the sanction of our own spiritual worthiness to such an intuition.

IV. CULTURE OF THE DIFFERENT DUTIES.—The conception of Duty, as already explained, involves the idea of the *right* and of *obligation*. We apprehend it to be our duty to do what we cognize as right; and also to leave undone what we cognize as wrong. Our duties are many and various; but for this discussion they may all be embraced under three general classes; Duties to Self, Duties to Others, and Duties to God. There are also duties to society and the state; but these are omitted as less appropriate to the consideration of the culture of the sense of duty in the young.

PERSONAL DUTIES.—Personal duties are those which we owe to ourselves as spiritual and immortal beings. They are duties which we should attend to if we were the only persons living in the world, or if we were cut off from all association with our fellow men. They contribute to our own personal welfare, and secure the approbation and worthiness of our own spirits. The most important of these duties are Control, Culture, Purity, Industry, and Temperance. Each of these duties has its opposite to be avoided; as, Intemperance, Indolence, Impurity, etc. To these we should apply the general law of moral culture, that *we should cultivate the virtue and avoid the vice.*

Self-Control.—One of the first duties to ourselves is that of *self-control.* Man finds in himself impulses and propensities that tend to his injury and degradation. These impulses are of two kinds, mental and physical. The physical impulses are our appetites for animal gratification; as, eating, drinking, indolence, licentiousness, etc. The mental impulses are such as jealousy, vanity, anger, peevishness, intolerance, etc. All of these impulses, when uncontrolled by reason, tend to injure our bodies or minds, and weaken and degrade our spiritual nature. The first duty to ourselves, therefore, is the proper control of these desires and propensities. Such a control is required to preserve the body and mind from injury. It is also demanded by the interests of our spiritual nature, as all lawless passions bring degradation and a loss of self-respect.

Purity.—A second duty to one's self is that of *purity.* We should not only restrain ourselves from evil by self-control, which is a negative virtue; but we should also, by positive effort, cultivate spiritual purity. All evil thoughts that, like serpents, go creeping through the soul, leaving their slimy trail behind, should be carefully excluded. Thoughts of the pure and refined should be welcomed and cultivated; and aspirations after the high and noble should be encouraged. The soul should be a shrine of pure thoughts and beautiful imaginings, a temple fit for the indwelling of the gods. The light of truth and beauty should be shining there, and the vestal flame of purity should be kept ever burning on the altars of the heart. From every soul should arise like a sweet incense the prayer of Socrates of old, "Grant to make me beautiful within."

Culture.—Culture is a duty that the mind owes to itself. The soul is not created mature; it grows into spiritual excellence by proper culture. This growth may be stimulated and directed; and it is the duty of every person to labor for the proper development of all his powers. The fact that the soul can be cultivated indicates the duty of affording it culture. The further fact that the spiritual nature reaches its highest state of perfection by culture, emphasizes this duty. The glory of man is in a full and harmonious development of all his powers. To neglect this culture is an indignity to our own souls; to afford this culture secures the approval of our sense of right, and meets the demands of spiritual worthiness.

Industry.—The duty of industry should be early inculcated. This is an important practical virtue; man was not born to idle away his time in pleasure, but to accomplish some useful purpose. He is to be not merely a consumer, but a producer of that upon which he lives. The law of industry is written in the very constitution of man. It needs no divine command to teach that "in the sweat of thy face shalt thou eat bread." Every man is under obligation to the behests of his own soul to do something, and not be a mere drone in the busy hive of the world. The virtue of industry should thus be early inculcated, and the vice of indolence proscribed. Teachers and parents should aim to cultivate industrious habits among the young, and thus make work a pleasure and idleness a source of unhappiness.

Temperance.—The virtue of temperance is closely related to that of self-control. It is the regulated activity of those appetites which, immoderately indulged, lead to degradation and ruin. Many things are wrong only in their abuse; and such abuse is intemperance. Temperance is the proper use of our powers, either mental or physical, and of those objects which gratify or give pleasure to these powers. Thus we should be temperate in eating and drinking; gluttony or drunkenness is an indignity and a disgrace to the human spirit. So there are other propensities which, when moderately exercised, contribute to our welfare, but when exercised without restraint degrade us to the level of the brute. The duty of temperance should be early taught to the young; and, if possible, confirmed into a habit.

Ambition.—Ambition is a moral trait of mixed good and evil. An ambition for high attainments in science or art or moral achievement, is a noble motive, and should be sedulously cultivated. An ambition to equal in skill or power or influence any of our fellows, is also a virtue worthy of ourselves and is of advantage to the world. When, however, the ambition seeks power or influence for unworthy ends, it becomes a vice and should be avoided. The passion to excel others for the mere purpose of excelling them, or for the purpose of standing above or ruling them, is an ignoble quality of the mind; in this form, ambition has been a scourge to mankind, and deserves the obloquy it receives. A person dominated by such a mean and ungenerous ambition, can secure neither the approval of his own spirit nor the respect of the world.

Vanity.—Vanity is a moral trait entirely unworthy of a self-respecting spirit. It indicates a littleness of character that receives, as it merits, the contempt and pity of others. Vanity manifests itself in a variety of ways. Some persons are vain of their wealth, others of their personal appearance or their position in life, others of their family or their birth,—things that give no true nobility to character. Others, again, are vain of their attainments in knowledge or their achievements in science, art, or literature,—things which are excellent in themselves, but which lose their attraction when associated with egotism and vanity. The vain man thrusts himself forward on public occasions, obtrudes himself on public notice, turns the conversation upon himself or upon subjects which will give prominence to his own actions and attainments. In all such cases the person makes himself an object of contempt, and is usually a "laughing-stock" even to those who may respect his real excellencies of character. Vanity thus detracts from our appreciation of those things which are really worthy of our esteem in a man, and creates contempt where there might have been admiration. A manly unconsciousness of one's own merits is the brightest ornament of high attainments and noble actions.

Covetousness.—Covetousness is an ignoble feeling that tends to bring degradation upon the soul that cherishes it. It manifests itself in an inordinate longing for anything that is not our own; though it is usually applied to the desire for wealth. When this develops into a passion and takes possession of the soul, as it often does, we have one of the most pitiable examples of the degradation of the human spirit of which we can conceive. For wealth the miser denies himself the comforts of life, forgets the claims of kindred and friends, scorns the demands of charity and benevolence, and centres his affections on sordid dust. His soul seems to shrivel and shrink until every kindly impulse or generous feeling is destroyed, and he becomes as insensible as the gold he worships. In opposition to so detestable a vice, we should train ourselves and our pupils to generous impulses and a kindly spirit of benevolence that will bless mankind as it adorns one's own character.

DUTIES TO OTHERS.—The second class of duties are those which grow out of our relation to other persons than ourselves. The principal of these duties are, Courtesy, Obedience, Veracity, Honesty, Charity, Gratitude, etc. The obligation to discharge these duties is two-fold. First, they are demanded of us by the rights of others; we are under obligation to do them because of their relation to and effects upon mankind. Second, the discharge of these duties secures our own spiritual worthiness; to neglect or violate them brings spiritual unworthiness and a sense of personal dishonor. Both of these principles should be applied as motives to the discharge of our relative duties.

Courtesy.—Courtesy is a common duty, not restricted to any particular relation, but one which we owe to all mankind. In its negative form, it excludes all rudeness and insolence towards a person, forbids scorn and arrogance and ridicule, and everything that carries with it an appearance of disrespect or insult. In its positive aspect, it requires civility in word and action, and a careful attention to the feelings and opinions of others. Any discourtesy is an indignity to the person towards whom it is extended, and a violation of his intrinsic right to be treated with respect. An act of discourtesy towards us does not release us from the duty of courtesy; we may properly feel indignant at such treatment, but our resentment may be tempered with a dignity and delicacy which manifest our appreciation of our own worthiness and a sense of what is due from us to others, even though they are unworthy of it.

Obedience.—Obedience is a virtue that springs out of the relation of a person to one in authority over him. It is a rational duty, and is readily recognized by a mind in which the sense of the right is clear and intelligent. It is a duty rendered in obedience to the demands of our own spirit, as well as to the requirement of the person in authority. We see that the person has a right to demand obedience; and we obey because of his right to demand. We see, at the same time, that we are under obligations to obey, even aside from this demand; and that not to render this obedience would be an indignity to our own spiritual natures. This principle should be carefully inculcated in the minds of the young. They should be taught the duty of obedience, and learn to render it willingly, and with a sense of personal dignity in so doing. They should be obedient to parents, teachers, and all others in authority, and thus cultivate the virtue of good citizenship,—obedience to the state.

Veracity.—Veracity is a duty that grows out of our relation to others. To deceive a person is an indignity to him as a person, and is thus a violation of the principles of morality. It is also wrong in that it may lead him into an erroneous statement or an improper action. It is also seen to be an indignity to one's own spirit; the man who willfully deceives another cannot but feel that he sacrifices his own self-respect. Besides, truth is an excellence in itself. It is one of the noblest virtues, and gives high worth and dignity to the mind in which it dwells. Its opposite, lying, is an ignoble and cowardly vice; and brings self-degradation and a loss of honor to the soul. Truth should be cultivated in small things as well as in great. There are no "white lies;" a lie is always black with dishonor. Care is to be taken also to avoid falsehoods of equivocation, of gesture, and even of silence with intention to deceive. Such lies are even worse than a direct untruth, because they seem to combine the element of cowardice with the intention to deceive. The young should be trained to value the virtue of veracity, and to enshrine this principle at the very centre of their being, that it may shine with radiance in all their words and actions.

Honesty.—Honesty is a duty that applies primarily to matters of finance and trade; but it also includes all dealings with others. We should be as careful to act honestly with the thoughts, the reputation, and character of another, as with his property or his purse. To cheat him out of his invention, or to endeavor by falsehood to rob him of his reputation and esteem among mankind, would be as vile as to steal his purse or burn his buildings. To deal dishonestly with a person not only takes from him that which belongs to him, but is also an indignity to him as a rational being. The duty of honesty is also required by our own personal worthiness; it is a degradation to our own spirit to deal dishonestly with our fellow men. Even if we could secure some personal interest or happiness, it would be bought at the price of self-contempt and a sense of spiritual unworthiness.

Charity.—Charity, or the spirit of kindness, is a duty due to all mankind. We are associated with our fellow-beings; they have a right to happiness, and we bear a relation to that happiness. The law of kindness forbids anything that tends to wound the feelings or produce suffering among our fellow men. It is not the reciprocity of favors, a selfish return for what has been given, but a spirit of love that goes out to all, regardless of what they have done to us. Kindness is a right that others may demand from us; we are therefore under obligation, not only not to mar their happiness, but also to contribute to it. This virtue is also due to the behests of our own worthiness; an intentional act of unkindness is followed by a sense of personal degradation. The kindly word or deed that makes others happy is also reflective; it leaves a happiness behind it in our own spirits. We should teach the young to give kind words, friendly smiles, and helpful deeds, for the relief and happiness of those around them.

Gratitude.—Gratitude is a duty that grows out of a special relation to others, that of receiving favors or kindness from them. It is an intuitive cognition that such favors should be appreciated by the recipient, and awaken in his heart a feeling of gratitude. This feeling should be manifested by some token of word or deed. Not to feel and express this sentiment of gratitude indicates a hard and selfish heart, and a character unworthy of esteem or respect. Ingratitude is one of the meanest vices; it shows a base spirit. The duty of gratitude is a right of the benefactor; he can claim it as his recompense and due. It is also demanded by our own spiritual worthiness; the ungrateful heart must experience a sense of unworthiness as it stands in its own presence and feels the gaze of its own moral eye.

DUTIES TO GOD.—Consciousness reveals in the mind the idea of a Supreme Being. This idea, whatever may be said of the external reality, is universal; it is found in the mind of every nation and people. The idea of God as a first cause shines like a star in the sky of every mind; and a belief in him as a ruler and governor of nature and mankind illumines man's thought and character, as the sun in the heavens illumines the world. A belief so important and general demands recognition in philosophy and education. The conception of such a Being and of our relation to him gives rise to certain duties due to him. These duties belong to the sphere of moral action in its broad sense, and should be included in a system of moral culture. They may be specifically distinguished as our Religious Duties.

Classes of Religious Duties.—Our duties to the Divine Being are many and various. They may, however, be all included under three general classes; Faith, Love, and Obedience. Faith is an act of the intellect, and will include all of our beliefs with respect to his nature and the conception of our duties toward him. Love is an act of the sensibilities, and embraces the feelings that should flow out toward him. Obedience is an act of the will, and includes the principle of all our religious acts. The conception of each one of these general duties is a product of the intuitive power, and is to be developed by the appropriate culture of that power. A few remarks will be made in respect to each one of these duties.

1. Faith in God.—Faith is a belief in the existence and nature of the Divine Being. It is an act of intuition, and one of the very highest acts of the faculty. God does not reveal himself to the senses; no eye hath seen nor ear ever heard him; he is not an object of experience, nor a result of reflection, but is known by an act of the mind that transcends all experience. He is not a part of nature, nor is he revealed in nature; he is altogether above the natural world,—entirely a *supernatural.* He does not belong to any of our finite conceptions of space and time; but is an infinite in time and an infinite in space. He is an all-pervading, omnipresent spirit, without beginning or end. He is not an effect of causes, or a link in the chain of causation; but is himself the *First Cause uncaused.* Such is our necessary conception of a divine being; and this conception is one of intuition, and is the highest and grandest conception of the intuitive power. The Supreme Being himself is beyond all finite comprehension; and is grasped by that attribute or operation of intuition which we call *Faith.*

Grandeur of this Idea.—The idea of God is the highest and noblest to which the human mind has ever attained. It concentrates in itself all that is grand and noble and good and beautiful and sublime. It is a combination of infinities; the infinite in time, the omniscient in knowledge, the omnipresent in space.

We have an idea of the True; God is our idea of absolute TRUTH. We have an idea of the Beautiful; God is our idea of the perfection of the BEAUTIFUL. We have an idea of the Good; God is our conception of the absolute and infinite GOOD. In this idea we combine and crystallize all the infinitudes of intuition,—an *infinite* in time, an *omnipresent* in space, a *first cause* uncaused, a spiritual *identity*, without variableness or shadow of turning; the *absolute truth*, the *perfection of beauty*, and the *ineffable good*. All of these infinitudes are embraced in this one grand conception of GOD.

Value of the Idea.—This idea is not only the grandest intuition of the soul, but is the most important idea in philosophy. It is the most inspiring and elevating cognition of the human mind; it lifts the soul up to its highest aspirations and activities. Inspired by this idea, the mind has attained its noblest achievements in literature and art and character. The grandest modern epics are the *Paradise Lost* and the *Divine Comedy*, the embodiment of Christian faith; and the grandest epic of antiquity is inspired by a faith in Jupiter and his attendant deities. In the art of painting, the Transfiguration of Raphael, the Last Supper of Da Vinci, and the Last Judgment of Michael Angelo, stand unapproachable for beauty and sublimity. The Church of St. Peter, the Duomo of Florence, and the Cathedral of Cologne, are the embodiments of the religious faith and feelings of centuries. The *Messiah* of Handel and the *Creation* of Haydn attain a sublimity of conception unsurpassed in music. The Bible, as the development of the religious idea of the world, will ever be regarded as the *book of books*. The highest example of the heroic in character is seen in the men who through faith in God stood firm and triumphant in the martyr's fire. The scene of highest moral grandeur on earth is that in which the Son of Man hung on the cross, dying for the truth, and with a pitying heart for others, praying "Father, forgive them," and with the thought of his own sublime work completed, exclaiming "It is finished."

Cultivate Faith.—This intuition of faith is to be sedulously cultivated. No means are to be neglected to give fullest development to this grand and universal cognition and belief. By precept and illustration, by Sabbath-school and Bible and church, by all that is best and purest in human life and human thought, this idea of faith in God is to be developed. Every effort should be made to counteract that spirit of infidelity that would try to strike out God from the universe and the faith in God from the human soul. Indeed, so important is this idea to human life and human character, that it is better for the world that men should believe in a divine being, even if such a belief were but a dream of the imagination. Woe to the race and the world if the star of faith in God should ever be blotted out of the sky of human faith and philosophy!

2. *Love to God.*—Love is a duty to God, flowing out of the activities of the sensibilities. Believing in a God, we recognize him as the perfection of all that is excellent in character, and thus as worthy of our fullest admiration and veneration. To him gushes out spontaneously all that is best and holiest in human feeling. The natural feelings toward the divine being may all be expressed in the one word *Love.* Love to God is the homage of the heart to the perfection of the Divine Nature. Love is thus a duty we owe him on account of the excellence of his being. It is also a duty of reciprocation; as the embodiment of all that is good he is full of kindness and love to us; and we owe him the duty of love in return. We love him because he is worthy of our love; and we love him also "because he first loved us." The law of duty requires that on the altar of our hearts should be kindled and kept ever burning the fire of consecrated love to God.

Manifestations of Love.—This principle of love manifests itself in a variety of ways. These different manifestations give rise to special duties comprehended in the great central duty of love. Among the principal of these duties growing out of Love we may mention Humility, Reverence, Prayer, and Worship.

Humility.—Humility is a natural feeling of the mind, growing out of our faith in a Supreme Being. When the soul stands in the presence of the Infinite Being, it feels its utter insignificance and unworthiness, and veils its face and bows to the dust, saying, "Holy, holy, holy, Lord God Almighty." In so doing it is true to its own natural instincts, and shows its recognition of and respect for the attributes of divinity. It is thus an act demanded by its own sense of spiritual worthiness; to stand with head erect and covered in the presence of Almighty God, would seem like an indignity to him and would merit its own contempt. Humility is thus not servility of spirit; it is the soul's conscious recognition of the homage and attitude due to superior power, wisdom, and holiness. Such an attitude is also seen to be consonant to the divine nature; "the spirit of God delights to dwell in the hearts of the humble;" and the promise is "Blessed are the meek." Humility is one of the sweetest blossoms of the human heart; it is "that sweet root from which all heavenly virtues spring."

Reverence.—Reverence to God is an act of the heart inspired by faith in the existence of the Divine Being. It is the natural feeling of the human heart in the presence of the absolute Spirit. The human heart feels a respect for the spiritual in humanity, which rises in proportion to the excellence of the spiritual element disclosed. In the presence of some hoary sage, the soul bows with uncovered head in humility and respect. When it stands in the presence of the Absolute in goodness and power, this respect rises into reverence, and the homage of the soul is complete. Such a feeling of reverence gives highest dignity and worthiness to the human spirit. Though bowing in humility, the soul lifts itself into highest dignity by the feeling of reverential affection. "No man is so exalted as when utterly losing himself in his reverence for Deity."

Prayer.—Prayer is a natural outgrowth of the human heart from a faith in and a love for divine goodness. It is the soul's sincere desire for the love and care of a Heavenly Father, who is conceived as being the source of every good and perfect gift. In this act of the heart, go out the richest currents of our feelings towards the All-Father, with the desire that he will fill us with the rich influences of love and purity that flow from his nature. Prayer is not only an instinctive, but it is a reasonable duty; for the nature of our relation to God makes it a demand of our sense of right. God is our father; he is the author of our being and our happiness; he has blessings to bestow upon us; and it is but reasonable that we should ask for those things which we feel we need. Prayer also serves to deepen our attachment to God; it brings the soul in nearer communion with the Infinite Soul. Prayer is, in fact, the golden link of love that unites the heart of man to the heart of Deity.

Worship.—The act of worship is a duty growing out of our faith in and love for the Divine Being. By worship we mean those acts of honor and reverence which religion accords to the Supreme Being. In it the soul seems to gather its feelings and pour them out in specific forms of love and veneration. It is humility and reverence and prayer, all fused into one feeling, and going out into one act. It manifests itself in the bended knee, the chant of praise, the song of adoration, and in the consecration of the soul to holiness. Worship is a duty we owe to the Divine Being on account of his glorious attributes and deeds; to him who inhabiteth eternity and whose glory filleth immensity, acts of worship are due. It is a duty demanded by our own sense of worthiness; the soul could not respect itself if it did not pour itself forth in the adoration of the infinite and divine. Worship is thus the crowning act of love to God; and it adorns the brow of the spirit with its brightest chaplet of worthiness.

3. Obedience to God.—Obedience is the act of the will towards the Supreme Being. It is the subordination of the human will to the Divine Will. Faith is the act of the intellect; Love is the act of the sensibilities; Obedience is the act of the will. Obedience is doing what God has commanded, and doing it because he has commanded it. Love prompts to many deeds that flow out of the pure spontaneity of the heart. In love we do not stop to inquire what God requires; we do what the feeling prompts.

In obedience the question is not what I like, but what God requires; and the will moves in obedience to the divine behest. There is no question, necessarily, of the right, but merely the question of what is God's will in respect to an action, and our will operates in harmony with the Divine Will.

Forms of Obedience.—The principle of obedience applies to every duty that may be required by the Divine Being. Whatever we conceive to be commanded, that we are under obligation to perform, merely because it is required. The object is to determine clearly what is the will of God; and this will is our law and our guide. The divine will is believed to be revealed to mankind in the Bible; and thus believing, the soul is under obligations to render a willing, loyal, and implicit obedience. To discover the divine will is not within the sphere of mental philosophy, but belongs to theology; and thus its discussion would not be appropriate to this work. All that philosophy has the right to do is to recognize this principle of obedience, and thus lay a foundation for theology to build on. This foundation we have now laid; and those who believe in the revelation of the Divine Will in the Bible and the Divine Word, may build up the beautiful temple of religious philosophy,—a temple of grand and symmetrical proportions, and radiant with the light that comes streaming from the heavenly world.

THE SENSIBILITIES.

I. NATURE OF THE SENSIBILITIES.

I. The Emotions.

II. The Affections.

III. The Desires.

II. CULTURE OF THE SENSIBILITIES.

I. Importance of Culture.

II. Methods of Culture.

THE SENSIBILITIES.

CHAPTER I.

THE NATURE OF THE SENSIBILITIES.

THE SENSIBILITIES are the powers by which we feel. They constitute that part of the mind in which we find the emotional nature of man. They are the source of the joys and sorrows of life; of its pleasures and disappointments, its happiness and its misery. Here arise the emotions which thrill the heart with pain or pleasure; here we find the source of the affections which fill the world with the brightness of love or the dark stains of hatred; and here originate the desires which urge us onward in the pathways of life, and place the beacon of hope over the portals of the future world.

Relation to the Intellect.—The relation of the sensibilities to the intellect is easily understood. An act of the sensibilities is usually preceded by an act of the intellect. There must first be a cognition, an idea in the intellect, before there can be an emotion in the sensibilities. Thus when we love we must love something, when we hate we hate something, when we desire there must be some object towards which our desires go out; and these objects must have been previously cognized by the intellect. There may, however, be some affections of the sensibilities which have not risen into distinct consciousness, that were not preceded by a distinctly conceived idea, as was explained under consciousness.

Intellect and Emotion.—The strength of feeling is usually proportioned to the strength of intellect. When the cognition of the intellect is deep and vivid, the feelings arising will also be strong and vivid. The man of a strong and vigorous intellect will usually have strong and deep feelings. This is seen in such characters as Cæsar, Luther, Milton, Cromwell, and Washington. The great orators were not only profound reasoners, but they put an enthusiasm and strength of sentiment into their thoughts that moved the hearts of their listeners and produced conviction. The great leaders of mankind have usually been men of broad minds, strong wills, and deep feelings.

Classification of Sensibilities.—The forms of feeling are many and various. These forms are difficult of classification; indeed, no classification has yet been given which has been generally accepted by philosophers. The simplest and most plausible division is that which regards them as consisting of three great classes; the *Simple Emotions*, the *Affections*, and the *Desires*. The Simple Emotions are the source of the joys and sorrows of life; the Affections are feelings which go out to an object with the wish of good or ill to it; the Desires are feelings that go out to an object with the wish of its possession or the reverse. The principle of this classification is stated in the expressions,—I *enjoy*, I *love*, I *desire;* with the opposite feelings, I *suffer*, I *hate*, I *feel aversion*.

The Simple Emotions.—The Simple Emotions are simple feelings which spring up in the mind in view of certain cognitions. They are purely subjective in their nature, not going out towards any object, but simply giving pleasure or pain to the person who experiences them. Such are sorrow for the loss of friends, sympathy for the suffering, the enjoyment of the beautiful, etc. They may be regarded as modifications, more or less definite, of the general feelings of happiness or unhappiness, and which, in the specific forms, constitute the joys and sorrows of life.

The Affections.—The Affections are feelings that go out towards an object with a wish of good or ill to the object. Thus in love or hatred, the feeling passes out to the object of love or hatred. They differ from the simple emotions in thus assuming an objective form, and flowing out towards the object which excites the feeling. So strong sometimes is this objective element, this wish of good or ill to the object, that it obscures the subjective element. The affections are thus not simple but complex feelings, embracing both a subjective and an objective element.

The Desires.—The Desires are feelings that flow out towards an object with the wish of possession or its opposite. Thus the desire for fame or riches is a feeling, a feeling that passes out to the object, and a feeling accompanied with the wish of bringing the object to ourselves for our possession and enjoyment. The feeling is only satisfied by the possession or use of the object which awakens the feeling. The feeling is thus triply complex; it is subjective, objective, and attractive.

Illustration.—These three classes of feelings may be illustrated by the analogy of a spring or fountain. The simple emotions are simply the play of the water, the gushing up from unknown depths of the pure liquid of the spring. The affections are the waters flowing out from the spring into the meadow, giving verdure to the grass and beauty to the flowers that border the banks of the rivulet. The desires are the waters flowing back again to their source, bearing on their bosom such objects as the current may have caught in its embrace. In the simple emotions, there is simply a play of feelings; the fountain rises and falls, sparkling in the sunlight of joy or darkened by the shadows of sorrow. In the affections, the fountain of feeling flows out towards an object, bearing love or hatred in its course, and carrying it to the object which calls it forth. In the desires, the feeling not only rises in the bosom and flows out to the object, but it clasps that to which it flows, and endeavors to draw it to ourselves for our own enjoyment.

Opposite Feelings.—The sensibilities are dual in their nature and products. Each feeling has its opposite corresponding feeling. This is true of each of the grand divisions of the sensibilities. Thus, joy has its opposite, sorrow; love, its opposite, hatred; desire, its opposite, aversion. Each specific form of these three divisions has also its opposite, more or less definite according to the character of the feeling. These opposites, or correlatives, are, as it were, the opposite poles of feeling, the positive and negative poles of the sensibilities.

I. The Simple Emotions.

The Simple Emotions are simple feelings which arise in the mind. Their general characteristics are expressed by the terms *joy* and *sorrow.* They include all those general states of feeling which give a tinge of joyousness or sadness to the mental constitution. They embrace also the more specific forms of feeling, such as sympathy for loss of friends, the enjoyment of society, the enjoyment of the beautiful or sublime, the satisfaction or remorse resulting from a moral action, etc. These are all simple emotions, varying as the objects or ideas vary which give rise to them.

Classification.—The simple emotions are divided into two general classes; the Instinctive and the Rational. The Instinctive Emotions are those which spring up out of the general condition of the mind, either with or without some exciting cause. They are independent of any cognition of the reason, and thus belong to our lower nature, some of them being shared by the brute animals. Such are the enjoyment of society, sorrow for the loss of friends, etc. The Rational Emotions are those which arise from the cognitions of the reason. Such are the feelings awakened in view of the beautiful and sublime, the feelings of obligation that follow the conception of the right, etc.

I. The Instinctive Emotions.—The Instinctive Emotions are those which spring up spontaneously in our nature without any definite conception of the reason. They embrace all simple emotions that do not arise from a rational cognition. The principal feelings of this class are Cheerfulness and its opposite, Melancholy, Pleasure of Companionship and its opposite, Sorrow at the Loss of Friends, and Sympathy with the Happiness or Sorrow of others. A brief discussion of each of these will be given.

Cheerfulness.—Cheerfulness is a state of mind growing out of a natural disposition to happiness. It is an innate gladness of spirit, a general liveliness or joyousness of disposition, a condition of the mind in which "a subdued under-current of gladness seems to fill the soul and flow through all its channels." It is a disposition to be joyful rather than a joy itself, filling the soul with a sunny aspect like "a mild, equally diffused light filling the sky, and bathing all objects in its serene loveliness and beauty." When it breaks out into a more sudden striking manifestation, it is called gladness. It is the source of the merry laugh of childhood, the friendly look and kindly smile of maturer years, and the happy and tranquil frame of mind of old age.

Melancholy.—Melancholy is a habitual disposition to sadness. It is the opposite of cheerfulness; and, like it, is a disposition of the soul rather than an active emotion. It frequently occurs in minds of delicate sensibilities, and is often associated with poetic genius, as in Cowper and others. Nearly all of the rarest geniuses have been slightly tinged with it, among whom we may mention Tennyson, Longfellow, Hawthorne, and Irving. Such spirits, too, are usually the most sensitive to the humorous; and are often the most humorous writers, as Lamb, Hood, and Irving. This latter fact illustrates the old adage that "the fountain of laughter lies very near to the fountain of tears."

Pleasure of Companionship.—The feeling of pleasure that grows out of companionship is also an instinctive emotion. We naturally delight in companionship; we enjoy the social circle, the evening party, the summer excursion where soul mingles with soul in the friendly word or sparkling jest. We love to wander with a few congenial friends, sharing the delights of the twilight hour, or to sit at quiet eve when the shadows gather, and commune with some kindred spirit whose soul seems linked by some congenial tie to our own. It is closely related to the feeling of friendship, and may be the basis of that affection.

Sorrow for Loss of Friends.—Another instinctive emotion is the sorrow we feel at the loss of friends. This is a deep, sad feeling, proportioned to the intimacy and strength of the attachment we cherished for the friend. The nearer and dearer the friend, the stronger and more poignant the grief. Sometimes the soul seems to sink into the depths of an utter and hopeless sorrow, and again a gentle melancholy pervades the action of the mind. The feeling of sorrow is modified by the lapse of time. At first we often feel that the grief can never be assuaged and the heart soothed; but time is the great consoler, and by and by the pain grows less, and the deep feeling passes into a gentle sadness of memory. Such was the feeling under which Tennyson wrote his *In Memoriam*, and Longfellow his *Hyperion*.

Sympathy With Happiness.—Another form of simple emotion is that of sympathy with the happiness of others. This feeling is so prominent and distinct that it has received a distinct name, *sympathy*. The term applies to our feeling in respect to joys or sorrows, the happiness or misery of others; but it is sympathy with the happiness that we first consider. This is a glad, joyous, and generous feeling that arises spontaneously in a noble soul. When others are happy, our hearts feel like rejoicing with them; the smile of gladness on the face of a companion awakens a corresponding smile on our own faces. We congratulate our friends on their good fortune, and share with them the happiness it brings.

Sympathy With Sorrow.—The opposite feeling is that of sympathy with the sorrows of others. This is a much deeper feeling than sympathy with their happiness. Indeed, the term sympathy is used almost exclusively in this latter sense. The reason for this is obvious. The sorrows of life are more marked and exceptional, and thus affect persons more deeply than their joys, so that our feelings of sympathy are naturally deeper. Besides, there is a greater need of sympathy for sorrow than for joy; for the sorrowing heart needs the touch of a friendly spirit and the sustaining words of a sympathizing friend.

II. THE RATIONAL EMOTIONS.—The Rational Emotions are those that are awakened in response to a rational cognition.

They are feelings that arise from the ideas of intuition, or the reason. Thus, when I cognize beauty, I experience a feeling of enjoyment; and so when I have an idea of the right or of obligation, there is a corresponding feeling of obligation awakened in the soul. Such feelings are called the Rational Emotions. The principal emotions of this kind are the Egoistic, the Æsthetic, and the Ethical. The Egoistic Emotions are those of Pride and Humility. The Æsthetic Emotions are those of the New and Wonderful, the Beautiful, the Sublime, and the Ludicrous. The Ethical Emotions are the feeling of Obligation, the feelings of Approval and Disapproval, and the feelings of Satisfaction and Remorse.

1. The Egoistic Emotions.—The Egoistic Emotions are those which centre in ourselves. They are based on the conception of the *ego*, which is primarily a rational conception. They include the conception of Pride and its opposite, Humility.

Pride.—The feeling of Pride is a rational emotion, inasmuch as it is based on the conception of the *ego* or self, which is a rational conception. The immediate cause of the emotion is some real or imagined excellence. This excellence may pertain to our intellectual or moral attainments, to our condition in life, or to any circumstances that seem to lift us above our associates. The feeling is one of inflation, or of self-congratulation. It does not necessarily imply a comparison with others, as the proud man may evince pride even when alone or when not in company with his fellows.

Forms of Pride—The general feeling of pride may manifest itself in several different ways. When there is a display of superiority, with the purpose of courting applause, it is called *vanity*. When there is a disposition to magnify that which is of little worth, and to plume oneself on what one does not possess, it is called *conceit*. When the person looks with contempt upon others and acts with arrogance towards them, it is called *haughtiness*. When a man has a high appreciation of his real meri and holds himself as if conscious of his own superiority, it i called simply *pride;* and the man is not called vain nor conceited, but simply a proud man.

Humility.—The opposite emotion to pride is that of Humility. This feeling implies the placing of too low an estimate upon our own attainments or character. It is a feeling of inferiority as compared with others, or as compared with our own standards of excellence. It leads to modesty of deportment, a standing back for others to take the lead in positions of honor and responsibility, a shrinking from the gaze of the multitude, or from assuming the responsibilities of public life. It is an attractive trait of character, and is especially admirable when associated with noble traits or high achievements. Excessive humility leads to bashfulness or embarrassment in deportment; and when united with a desire to please, often gives a person an air of servility or obsequiousness.

2. The Æsthetic Emotions.—The Æsthetic Emotions are those which arise from the æsthetic cognitions. They embrace the feelings relating to the New and Wonderful, the Beautiful, the Sublime, and the Ludicrous. Each of these will be separately considered.

Emotion of Novelty.—The perception of novelty, which is a rational conception, gives rise to an emotion called *surprise.* This is an agreeable feeling, and is the source of much of the pleasure we derive from the contemplation of the objects of life. We delight in seeing or hearing something new. Even an event which is in itself painful, affords a kind of pleasure in its novelty. We may be pained by the loss of a friend; but the thing, and not the hearing of it, grieves us. We tire of the monotony of sameness; we need variety to spice the enjoyments of life. Novelty even heightens our enjoyment of the beautiful; a picture seen many times, or a piece of music heard too frequently, ceases to afford pleasure. It has been remarked that to live always among mountain scenery diminishes our enjoyment of it. One of the pleasures of travelling is the continued succession of new objects which are presented to the mind.

Emotion of Ennui.—There is a feeling opposite to that of novelty, which is very nearly expressed by the word *ennui*. This feeling arises from the monotonous repetition of the same scenes or incidents. We tire of a straight or level road; we grow weary and at last become disgusted with the same series of musical sounds. Even the most beautiful song or poem loses its effect upon us if too often repeated, and leads to a feeling of disgust rather than pleasure. The lack of variety produces a feeling of weariness and languor of spirits, a feeling of satiety and indifference, that sometimes makes one almost weary of life. One can hardly wonder that pleasure-loving kings had persons employed to invent new sources of enjoyment, to afford them daily surprises, and thus relieve the monotony of their lives.

Emotion of Wonder.—The feeling of wonder is akin to that of surprise, but differs from it in being deeper and more exciting. It is, as it were, a greater degree of the same element; that is, increase or intensify surprise, and we have the feeling of wonder. The object which awakens the feeling must not only be new, but it must add the elements of the strange and marvellous to novelty. We are surprised at what is new or different; we wonder at what is great, strange, extraordinary, or not easily understood. A high degree of wonder passes into *astonishment*, and a very high degree of astonishment receives the name of *amazement*.

Emotion of Beauty.—From the conception of the beautiful arises the emotion of beauty. This emotion is one of the most delightful of our nature. It is a gentle and peaceful feeling, soothing and agreeable to the spirit, filling the soul with the purest and most exquisite delight. It is a purely disinterested feeling, containing no element of selfishness; the delight we experience we long to share with others. It is also an emotion that refines and elevates our natures, leading us naturally toward the pure and virtuous. Some writers have objected to the expression "the emotion of beauty," holding that the proper term to apply to the feeling is *admiration;* but we may admire many things not beautiful; and the only expression that distinguishes this peculiar feeling from all others is that of the *emotion of beauty*.

Emotion of Sublimity.—The emotion of sublimity is similar to that of the beautiful, but differs from it in several particulars. The emotion of beauty is a calm, quiet feeling, that brings peace and tranquillity to the soul: the emotion of sublimity is a deeper, broader, stronger feeling, that disturbs and agitates, while it pleases the mind. In the presence of a sublime object, the mind is aroused and excited; it seems to rise and expand with the element of infinity. The beautiful soothes and charms the spirit; the sublime agitates and overawes it. The former touches the springs of sympathy and love, the latter lifts the mind above these gentle emotions, and endows it with strength and power. Both are pleasing emotions; but the feeling of sublimity cannot be continued so long as that of beauty without exhaustion and consequent reaction.

Emotion of the Ludicrous.—The emotion of the ludicrous is a peculiar and exhilarating feeling of delight, which wreathes the face with smiles and attunes the voice to laughter. It seems to involve the principle of a "joyful elation of rebound or relief" from a condition of restraint or serious feeling, as children burst from the confinement of the school-room with a shout of laughter. The feeling of the ludicrous is clearly akin to the emotions of the beautiful and the sublime, and seems to lie between them. It is more active than the feeling of beauty, and less deep than that of sublimity. The feeling of beauty is placid and calm; the feeling of the ludicrous is bright, lively, and cheerful. The feeling of sublimity is deep, strong, and oppressive; the feeling of humor is light, sportive, and relieving. The feelings of beauty and sublimity seem to border on that of the ludicrous. The glow of pleasure in the contemplation of a beautiful object can easily be turned into the smile and the laugh; and the feeling of sublimity can readily drop into that of humor, illustrating the old adage that there is but a step between the sublime and the ridiculous.

3. *The Ethical Emotions.*—The Ethical Emotions are those which arise in the mind on the apprehension of ethical ideas.

They embrace the feeling of *obligation*, the feeling of *satisfaction* at duty performed, of *remorse* from duty neglected, and of *approval* and *censure* in respect to the actions of others.

Emotion of Obligation.—When the reason cognizes the right and the attending idea of obligation, the emotional nature immediately gives rise to the feeling of obligation. This is a strong, deep feeling, that tends to move the will to action. It embraces both a positive and a negative element; there is a feeling *to do* or *not to do;* an emotion of the *ought* and the *ought not.* It applies also both to our own actions and to the actions of others; we feel that we ourselves ought or ought not to do a certain thing; and also that others ought or ought not to act in some particular way.

Emotion of Satisfaction.—Following certain acts of rational beings, there is the perception of merit or demerit; and out of this perception arises a corresponding feeling of merit or demerit. When we have done what we think to be right, there is a sweet feeling of satisfaction arising in the bosom. It is a joy unspeakable, a delight incomparable with any other emotion that ever animates the human soul. It cheers us in the hour of misfortune, sweetens the cup of poverty, sustains us amid the most trying circumstances of life, enables us to withstand the coldness of friends and the slanders of enemies, and, above everything else, smooths the pillow of death and fills the soul with joy in the thought of the life to come.

Emotion of Remorse.—The opposite emotion to satisfaction is that of remorse. When we have done what we know to be wrong, this dark feeling arises, filling the mind with deepest gloom and sorrow. It speaks to the soul with an accusing voice that cannot be hushed. It throws a shadow over the brightest joys of life, gnaws at the very vitals of the heart, drives rest and peace from the softest pillow, and fills the thought of the future with dread and horror. So strong is this feeling that it sometimes drives a man into dissipation to drown the upbraiding voice, and even aims the pistol at the heart of the half-frenzied suicide.

Emotion Towards Others.—The cognition of the merit or demerit in the actions of others awakens similar feelings of approval or disapproval, towards one who has done what we think to be right we experience feelings of approval and commendation; towards one who has done what we regard as wrong, we experience feelings of condemnation and censure. These feelings are proportioned to the merit or demerit of the action. They are independent of the relation of the good or evil act towards ourselves; though the intensity of feeling is increased when the action is done to us. They are also independent of sympathy for others; though the feeling of sympathy may modify the depth of the emotion.

II. THE AFFECTIONS.

The Affections are feelings which go out to an object with a wish of good or ill towards it. They are feelings which not only move the heart to pleasure or its opposite; but they flow out to and centre upon something objective to the mind. They thus differ from the simple emotions, in that they assume an active and transitive form, going out from their source, and centering upon the objects which awaken them. They are therefore complex in their nature, involving a subjective and an objective element.

Classification of the Affections.—The Affections are divided into two general classes; the Benevolent and the Malevolent Affections. The Benevolent Affections (*bene*, well, and *volo*, I wish) are those which go out to an object with a feeling of good will towards it. The Malevolent Affections (*male*, ill, and *volo*, I wish) are those which go out with a feeling of ill will towards the object on which they rest. The affections are thus seen to be different forms of the principles of *love* and *hate*, as the simple emotions are so many modifications of *joy* and *sorrow*. An affection, when it exists in an inordinate degree, so as to go beyond the bounds of reason, is called a *passion*.

I. THE BENEVOLENT AFFECTIONS.—The Benevolent Affections assume different forms according to the objects which awaken them. The most important are the *love of kindred*, the *love of friends*, called Friendship, the *love of benefactors*, called Gratitude, the *love of country*, called Patriotism, the *love of the race*, called Philanthropy, and the *love of God*, called Piety. Each of these will be briefly discussed.

Love of Kindred.—The love of kindred is an instinctive principle of human nature. It originates in the relation of parent and offspring, and extends with the widening circle growing out of this relation. The feeling is also beautifully adapted to this relation, and the interests which it embraces. It links the mother to the child by a tie necessary to its well-being in helpless infancy, and holds the child true to the interest of the parents in their days of needed care and sympathy. It is, perhaps, stronger in the parent than in the child, and stronger in the mother than in the father. The feeling is a priceless blessing to mankind. It founds the home with all its cherished influences; and thus lays the foundation of the state. It beautifies and ennobles human nature, is the source of some of the purest enjoyments of life, and gives the world the type of that home in Heaven where we are all to be children of one Father.

Friendship.—Friendship is the love of friends for one another. It differs from the love of kindred in that it is not based on any ties of relationship. Its foundation is congeniality of spirit; there must be some tastes or feelings in common. Similarity, however, is not essential; as we often find friendship between persons of almost opposite characters. Circumstances may strengthen or weaken the sentiment; and any change in the actions or moral character of one party will tend to modify the feeling. The sentiment of friendship is a beautiful one, and has adorned many a character and brightened many a page of literature.

Gratitude.—Gratitude is the love we feel towards benefactors. In it the heart goes out with a feeling of benevolent regard towards the person who has been kind to us. This feeling is manifested by means of thanks, and by a return of kindly deeds.

It is measured not so much by the extent of the gift or favor as by the spirit that prompted it. A small favor, with a pure and benevolent motive, makes a deeper impression on the heart than a larger gift with an appearance of any selfish motive. Gratitude is a royal virtue of the soul, and the absence of it denotes a disordered or degraded condition of the spiritual nature.

Patriotism.—Patriotism is the love we feel for home and country. It is a stronger and broader feeling than that of friendship, as our country is broader than our circle of friends. It is based on the separation of the race into families and nations, and the division of countries. Similarity of language, manners, customs, literature, etc., tends to cultivate and strengthen the sentiment. Privation and suffering intensify the feeling, as may be seen among the people of Holland and Switzerland. It is a sentiment that gives dignity to manhood and citizenship; and is of value in preserving the liberties of a country against the oppression of tyrants, or the machinations of corrupt and selfish political leaders.

Philanthropy.—Philanthropy is the love of the human race. It is a feeling for man as man, whatever his color, condition, or country, a love and regard for him as a member of the human family. It is a broader feeling than that of patriotism, not being limited by the boundaries of state or country. It is a feeling closely allied to that of sympathy. Indeed the emotion of sympathy may be regarded as the basis of the affection; philanthropy is the feeling of sympathy flowing out objectively to the persons that awaken it. It is a noble sentiment and of great value to humanity, tending to alleviate human woe and increase human happiness. It took Howard into the prison-pens of England and the pest houses of the Continent, to alleviate the sufferings of convicts and lazars, and caused Peabody to devote his millions to the education of the poor and ignorant, without distinction of color or race.

Piety.—Piety is love for the Supreme Being. This is the highest form of the affections, as the object of the feeling is himself the highest. The feeling of piety involves several other forms of affection lifted up towards the sphere of the infinite. Thus, regarding the Supreme Being as the All-Father, we experience towards him a feeling of filial affection. Regarding him also as the author of every good and perfect gift, our hearts go out with feelings of gratitude to him as a bountiful benefactor. Associated with him also is the hope of a blissful hereafter in a home of joy and brightness which we call Heaven. All these attributes and sentiments being lifted up into the sphere of the infinite and perfect, give to the feeling of love to God a depth and strength possessed by no other affection. As the heart goes out to God, it swells with a richness and depth of emotion that transcends every other feeling to which the soul is susceptible.

Relation of Affection.—There is an interesting relation between the several forms of affection. The sentiment of affection, it will be seen, exists in concentric circles of feeling. It has its origin in the small circle of home life; flowing out further, it widens into the circle of friendship; passing out from this, it broadens into the circle of patriotism, embracing our country; spreading still further, it covers the whole earth in the form of philanthropy; leaving earth and mounting upward towards the infinite, we have the highest form, that of piety or religion. Here the heart pours out its richest affections in love towards the All-Father, and the soul bows in adoration and worship.

II. THE MALEVOLENT AFFECTIONS.—The Malevolent Affections are the opposite of the Benevolent Affections. As the former are so many forms of love, the latter may be regarded as so many forms of hate. The malevolent affections, like the benevolent, vary according to the objects to which they are applied. Each one of the benevolent affections may have its corresponding malevolent affection. There are other more specific forms, however, which have received special names and which call for special attention. These forms are Resentment, Envy, Jealousy, and Revenge.

Resentment.—Resentment is a feeling that arises in the mind in view of an injury received. It is very nearly the opposite of gratitude,—ingratitude being merely the want of gratitude,—the love for benefits received. It is an instinctive principle of our nature, springing up spontaneously upon the contemplation of the wrong we have suffered. It is also a deliberate feeling founded upon the clear and dispassionate conception of the act and its circumstances. In this case, it may assume the form of retaliation, in which we return evil for evil, or invoke the arm of the law to redress the wrong suffered. The feeling is not entirely selfish, as it may be awakened by some wrong done to another, in which case sympathy seems to be the basis of the feeling. It is liable to abuse, so far as it is excessive or seeks retaliation; it is also of value in securing the ends of justice or the proper punishment of the criminal.

Envy.—Envy is a resentful feeling towards one who is more fortunate or successful than ourselves. This superiority may be in wealth, or influence, or beauty, or public position, or personal regard. The feeling is stronger when the object of our envy belongs to our own sphere in life or our own circle of society; it is more natural to envy the successful young man of our neighborhood than some one with whom we are not acquainted. Envy is usually accompanied with the desire to deprive the fortunate one of his possessions; but not necessarily so, since we might envy a person's beauty or wealth without wishing to deprive him of it. It is usually regarded as a mean and petty feeling, and indicates a narrow and ungenerous disposition.

Jealousy.—Jealousy is a resentful feeling towards one who is or seems to be dispossessing us of what we regard as our own. Thus we are jealous of one who has won or seems to be winning the affections of a friend. In a similar sense we are jealous of our rights; the king is jealous of his authority, etc. The two feelings of envy and jealousy are closely related and easily confounded. Jealousy is a painful apprehension of losing what we possess; envy is a pain or dislike caused by seeing some good or advantage in the possession of another. It is thus readily understood how love and jealousy are so frequently united. This view will account for the term jealousy being used in a good sense, as "I am a jealous God," as he does not wish to lose the love and obedience of his children.

Revenge.—Revenge is a resentful feeling going out for the gratification of personal hatred. Its source is a personal wrong received, from which arises a feeling to do equal wrong in return. Its principle is a tooth for a tooth, a blow for a blow, evil for evil; not because justice requires it, but because the feelings incite it. It looks not to a violated law, but to a personal wrong; and aims not to uphold the principles of justice, but to gratify the feeling of personal malice. In its lowest form, it seems to manifest a malignant delight in the sufferings of an enemy. It is a dark and degrading passion, and indicates a cruel and fiendish spirit.

III. THE DESIRES.

The Desires are feelings which flow out to an object with a wish of possessing the object. The feeling of desire is a complex one, seeming to possess a threefold element. First, there is a simple feeling, pleasant or unpleasant; second, this feeling becomes objective, goes out to an object; and then there is a wish to bring this object to ourselves, in a *desire proper*, or a wish to push it away from ourselves, as in *aversion*.

Its Basis.—The basis of a desire is some previous condition or act of the sensibilities. A desire does not usually spring up immediately out of a perception or cognition of an object, but out of an emotion or an affection which has been awakened by such a perception or cognition. Between the desire and the cognition of an object there is generally, if not always, some other feeling, either agreeable or disagreeable, which forms the basis of the desire. Thus we enjoy the beauty of a picture; and then we desire to possess it. We experience love for a person and then desire to possess the person or his love. This preceding emotion or affection is not to be regarded, however, as a part of the feeling of desire, but merely as a condition of its origin.

Aversion.—As the other two forms of the sensibilities have their opposites, so the desires exist in opposite poles of feeling. The opposite feeling of desire is called *aversion.* As desire endeavors to draw an object towards us, so aversion endeavors to push it away from us. Aversion, like desire, usually has its basis in some previous experience, in something, however, disagreeable rather than agreeable. Both desire and aversion have their source in the past, while their object lies in the present or future.

Classification.—The desires are of two general classes, those growing out of the physical nature and those founded on the nature of the mind. The former are called the Animal Desires, the latter the Rational Desires. Of the former we may mention the desire of food, of activity, of repose, of stimulants, etc., usually called the *appetites.* Of the latter are the desire of happiness, of knowledge, of power, of society, etc.

These several desires have their opposites or counterparts, called *aversions.* Thus the desire of happiness has its counterpart, the aversion to suffering; the desire of wealth its counterpart, aversion to poverty; the desire of knowledge, aversion to ignorance, etc.

I. THE ANIMAL DESIRES.—The Animal Desires are those which spring from the physical constitution of man. They have been called *appetites*, though the term is somewhat ambiguous, since it is generally restricted to the physical sensation arising from the wish for food. The term, as here used, however, relates to the mental as well as the physical feeling. The principal desires are those of Food, of Stimulant, of Activity, of Repose, and of Sex.

Desire of Food.—The desire of food is a natural feeling growing out of our physical nature. It is designed to secure the health and growth of the body. It is proportioned to the conditions of the physical system, and to the length of abstinence from food. In health it is usually stronger than in disease, and also in youth than in advanced age, on account of the greater demands of the growing body for nourishment. It is based on a physical feeling which is often so prominent as to cloud the conception of the mental element of the desire.

Desire of Stimulants.—The desire of stimulants is akin to the desire of food. It differs from it, however, in being an abnormal instead of a natural desire. It is based on a condition of the physical system induced by the use of narcotics or other stimulants. Thus the habitual use of alcohol creates a demand for its use; and the use of opium cultivates the desire for its continuance. These desires become so powerful sometimes as to dominate and enslave the strongest will, as in the cases of Coleridge and De Quincey. Human nature presents no sadder picture than when the will becomes enslaved by the appetite for stimulants, and the man becomes a drunkard or an opium-eater.

Desire of Activity.—The desire of activity grows out of our physical nature. It indicates a healthy condition of our muscular and nervous system, and is designed to promote the health and vigor of that system. It is stronger in youth than in old age; and is also found in the lower animals as well as in man. Thus the bird delights to hop from branch to branch, or cleave the air with arrowy flight, and the colt rears and prances in the enjoyment of its strength and agility. The basis of the feeling lies deep in the physical system, but there is also a mental element in it which constitutes it an act of the sensibilities.

Desire of Repose.—The desire of repose also grows out of our physical nature. It is designed to rest and recuperate the nervous and muscular system, to protect it from injury, and promote its health. It is also a source of enjoyment to us after we are wearied with the labors of the day. The feeling of languor that creeps over us is a delicious feeling that lulls us to quiet repose, and that seems to bring with it a balm to the soul as well as rest to the physical system.

II. THE RATIONAL DESIRES.—The Rational Desires are those which spring entirely out of our mental constitution. Their basis is not the body but the mind; not physical pleasure but mental enjoyment. The principal of these are the Desire of Happiness, Desire of Society, Desire of Wealth, Desire of Power, Desire of Esteem, Desire of Knowledge, and a peculiar form of desire and aversion called Hope and Fear.

Desire of Happiness.—The desire of happiness is instinctive and universal. It is not entirely selfish, since it may be accompanied with a generous desire for the happiness of others. Its primary operation is to give enjoyment to our own personal experience. It is also adapted to contribute to the happiness of society, since if each is happy all will be happy, and also since when a person is himself happy he feels like making others happy. It is also the basis of the hope of continued existence beyond the grave, since if we could not enjoy life we would not care to have it prolonged in the future. Upon it also is based one of the strongest incentives of religion, the reward of right-doing being blessedness forever.

Desire of Society.—The desire of society is also instinctive and universal. It shows itself in early childhood and continues with us through life. It is manifested even by the lower animals, which collect in flocks and herds. This desire is the source of some of life's purest associations and enjoyments. It is the basis of society and the state, for the association of men gives rise to social regulations and the laws of government. It is also one of the strongest feelings of our nature, as is seen in the sufferings of solitary confinement. Deprived of the society of his fellow men, man will console himself with the companionship of animals, as Byron describes in the "Prisoner of Chillon." The man who loses this feeling, and shuns mankind, becomes a misanthrope, and leads a dark and gloomy life.

Desire of Wealth.—The desire of wealth is wide-spread, though not universal. It is not an instinctive and natural, but a derivative feeling. It begins in the wish, not for money itself, but for the enjoyments it may purchase for us. The feeling is then transferred to wealth itself. The desire for wealth is not necessarily an ignoble one, if it is valued for the happiness it may bring ourselves and friends. When desired for the purpose of devoting it to deeds of benevolence and philanthropy, it is a noble and praiseworthy feeling. It often degenerates, however, into a desire for money for its own sake, and not for anything it may procure for the possessor or others. This is the passion of *avarice*, one of the most detestable manifestations of human nature that the world affords.

Desire of Power.—The desire of power is a universal and instinctive feeling. It manifests itself in the games of childhood, in the rivalries of school life, and in the vocations and professions of society. Even the brute animals evince it in their contests for mastership and in their rule of flocks or herds. It is not necessarily malevolent in its character, as there may be generous rivalries even among friends. It is apt, however, to breed feelings of ill will and even to turn friends into bitter enemies. The feeling has been of great advantage to the world as a stimulus to personal exertion and public enterprise. Through it lofty positions have been attained, great battles have been won, states have been founded and governments inaugurated, and the arts and sciences pushed on towards perfection.

Desire of Esteem.—The desire of the esteem of others is an instinctive principle. It is seen in early childhood, and manifests itself throughout life. It is also well nigh universal, as there are few who do not desire the approval and esteem of their fellow men. It operates both in securing the personal regard of friends and associates, and the general good opinion of society called *fame.* It even reaches beyond time into eternity, in the desire to leave a good name behind us and secure the remembrance and honor of posterity. The feeling does not spring from a selfish principle of our nature, for we prefer the good opinion of those who can be of no possible service to us. Neither can it be traced to the idea, as Hume teaches, that the good opinion of others confirms our own opinion of ourselves, since we often feel we are better thought of than we deserve.

Desire of Knowledge.—The desire of knowledge is an instinctive principle of our nature, and also a universal one. It manifests itself with the opening mind of childhood, and when properly encouraged, increases with the development of years It is an appetite that grows by what it feeds upon, since the more we know the greater is the desire to know. It is not due to a selfish principle of our nature, for we love knowledge, not for what it brings us, but for its own self; and the more one possesses, the stronger is the desire that it shall become universal. The desire of knowledge is one of the purest and noblest feelings of our nature, and is characteristic of a refined and elevated spirit.

Hope and Fear.—Hope and Fear are modifications of desire. Hope is the desire of some expected good, and fear is the aversion to some anticipated evil. The degree of the emotion depends on the nature of the object and the liveliness of the feeling with which it affects the mind. What we very much desire, that we hope for very strongly; what we are very greatly averse to, that we fear very greatly. When sick, our strongest desire is to get well; and the invalid usually has strong hopes of recovery even when his case is hopeless to all eyes but his own. The miser dreads more than everything else the loss of his money; and this is his greatest fear. The desire for future happiness is strong in the human heart, and the hope of the Christian seizes upon the joys of the heavenly world with a tenacious grasp.

CHAPTER II.

THE CULTURE OF THE SENSIBILITIES.

THE SENSIBILITIES will admit of culture, and should not be neglected in the work of education. They do not enter so prominently into the work of school training as the intellect, but they are no less important in the development of character. Indeed, the sensibilities lie much nearer the source and spring of human action than the intellectual faculties; and thus, with the exception of intuition, do more to determine the conduct and moral character of man. The subject would require a volume to discuss it satisfactorily; our limits will permit but a brief and inadequate discussion of the subject.

I. IMPORTANCE OF THE SENSIBILITIES.—The importance of the Sensibilities and their culture should be more fully appreciated. Schools are established for the education of the intellect; but very little provision is made for the culture of the sensibilities. Pupils are classed and graded in respect to their intellectual acquirements; to attempt to grade pupils on the basis of their emotional nature would be thought visionary and unpractical. Our curricula of studies are filled with branches to give activity to the intellect; what branches are given for the education of the sensibilities? So great a lack of appreciation of this element of our nature, demands the statement of a few reasons for its culture.

Of Great Value.—The sensibilities are of great value to mankind. Man is not intellect alone; he has a heart to feel, as well as a head to think. His thought is directed and incited by his feelings; and thus some of the highest intellectual products are due to the sensibilities. The will, which is the immediate source of action, has its roots in the feelings; and thus the heart is, in a sense, the source of the action of mankind. Take the heart element out of human action and human products, and they would be shorn of much of their excellence and power. Take the emotional element out of character and society, and they would lose all that is best and most beautiful in them. The wise man understood this when he said, "Keep thy heart with all diligence, for out of it are the issues of life."

Influence on the Intellect.—The activity of the intellect is largely dependent upon the sensibilities. A quick and lively sensibility is usually attended with a quickness and strength of intellectual conception. A man with cold and sluggish feelings will usually be found to have a dull and plodding intellect. The emotional nature excites the intellectual nature to activity, and stimulates it to efforts that it would otherwise be unable to put forth. Thus under the stimulus of strong feeling, a man will accomplish what he would not have believed himself capable of performing. The love of humanity, the aspiration after excellence, the desire of esteem or power, etc., have been the source of the great achievements of the race. The grandeur of some of the frescos of the Sistine Chapel was partly due to the perturbed, if not indignant, spirit of the great artist, Michael Angelo.

Relation to Thought.—Feeling gives force to thought. An idea without feeling in it is like a dead acorn; you must put your heart in your thoughts, if you would have them take root and grow in other hearts. Sentiment is not only the life, it is the soul of an idea. An abstract thought not warmed by the glow of the heart is a marble statue without life; put sentiment into the idea, and we have the statue with a beating heart, a flashing eye, and a rational soul. Sentiment is a stronger force than logic; the best reasoners are not always men of most influence. Mankind are influenced more through their emotional natures than through their intellects. In influence, inspiration is better than instruction. A touch of pathos, a tender incident, an appropriate compliment, are often more effective than the most logical demonstration. In education it is better to inspire the heart with a noble sentiment than to teach the mind a truth of science.

Relation to the Will.—The sensibilities exert a strong influence upon the will. Our volitions depend largely upon our feelings; and we reach the will of others through their hearts. Carlyle says, "The natural king is one who melts all wills into his own;" and the fire that melts the will is kindled on the altars of the heart. "Hearts are stronger than swords," says Phillips. Love will conquer where steel is powerless. The Norman bow and battle-ax could triumph on the field of Hastings, and the Norman conqueror endeavor to force a new language on a conquered people; but the love of the simple dialect which soothed them to slumber in the cradle of a mother's arms triumphed over law and force, and saved to us the rich legacy of the Saxon speech. Hearts are indeed stronger than swords. The gospel came, not with waving banners and pomp of war, but with the golden precepts of love to men and to God; and it has overthrown idolatry and superstition, and led mankind upward into the highest civilization the world has ever known.

Relation to Oratory.—The great orator relies on touching the feelings as well as upon convincing the judgment. The most intellectual speeches are not the most effective. An audience would hardly listen an hour to the delivery of the *Principia,* even if repeated with the charm of Whitfield's intonation. The great orators have been men of emotional power, men who put their hearts into their thoughts. "The passions are the only orators that always succeed," says Rochefoucauld. Henry Clay, in his tribute to oratory, says—"There is no power like oratory. Cæsar controlled men by exciting their fears; Cicero by swaying their passions." It is the tender sentiment, the quivering lip, the trembling accent, the moistened eye, that are often the most eloquent pleaders. In Webster's great Dartmouth College speech, there may have been conclusive argument; but when with trembling voice and moistened eye he referred to his own loved Alma Mater, even the judges on the bench were moved to tears.

Relation to Happiness.—The sensibilities are the source of the joys and sorrows of life. Happiness is a matter, not of conditions and natural surroundings, but of the feelings. A happy disposition will be contented under any circumstances, and find enjoyment in any conditions of life; a morose, dissatisfied disposition will be unhappy amid the splendors of wealth and the gilded honors of royalty. Happiness does not consist in intellectual attainments or scientific achievements; it is not found in the writing of popular books, or the delivery of great orations; it is found in the peaceful feeling that pervades the soul. The home of happiness is in the heart; the source of happiness is a peaceful conscience and a contented mind.

Relation to Actions.—The sensibilities are the source of the actions of mankind. The deed comes from the heart more frequently than it does from the head; and even the head is largely obedient to the heart. Our thoughts are largely colored by our feelings. We are apt to think what we like is right, and what we dislike is wrong. We too often yield our judgments to our affections, instead of moulding our affections to our judgments. The mass of mankind do what they like, rather than what they think to be right. Love is queen of the mind; it shapes the thought and leads the will, and thus moulds our opinions and actions.

Relation to Morality.—The sensibilities are thus intimately related to morality. Through their influence on the will, they are the source of moral actions. A good feeling flows out into a good action; an evil feeling leads to an evil deed. Love in the heart prompts the will to an action of kindness and benevolence; hatred in the heart goes forth into an act of revenge or murder. A feeling of covetousness leads to fraud and theft; and hatred applies the burning torch or lifts the knife of the assassin. Love to man beautifies the earth with its manifestation of generous action; love to country goes forth in the heroic deeds of patriotism; love to God has inspired the consecrated life or crowned the martyr's faith with a glorious death. The heart has embalmed itself in the actions of mankind; and moral action is thus largely dependent upon the feelings.

Relation to Religion.—The sensibilities are intimately related to religion. The essence of religion is Love; love to God and love to man. Love is the essence of obedience; we obey God because we love him. Love prompts us to acts of religious duty,—to reverence, prayer, and worship. Love builds the grand cathedrals, raises the altars of incense, sounds in the loud hallelujahs, and is heard in the still, small voice that ascends to the throne on high. Love is the essence of salvation, as revealed in the Atonement; "God so loved the world that he gave his only-begotten Son" to die for us. The central element of the Christian religion is thus the principle of love. Enshrined at its centre, it shines out from all its forms and institutions with a radiance divine. The highest revelation of God is that given in the definition of the Saviour, *God is Love.*

Principles of Culture.—There are several general principles
to guide us in the work of cultivating the sensibilities. The first 1.
principle is that the sensibilities are to be cultivated by exercise.
The second principle is that we should develop the higher feel- 2.
ings and repress the lower feelings. The feelings, as we have
learned, are dual; they are positive and negative. The positive
feelings are usually of advantage to mankind; the negative feelings are usually of disadvantage. As a rule, therefore, we develop the positive feelings, and repress the negative feelings. A
third principle is that the feelings should be under the control of 3.
the judgment and the sense of duty. Many feelings that are frequently evil are allowable and even useful when under proper control. Moderation is thus the law of culture in respect to some of the sensibilities. Having stated these general principles of culture, and indicated their application, we shall endeavor in the following discussion to show the value of the various feelings, and indicate the importance of their culture.

I. Culture of the Simple Emotions.

The Simple Emotions are of two distinct classes; the Instinctive Emotions and the Rational Emotions. Each of these will admit of culture, and should receive the careful training of parent and teacher. This culture should be begun in childhood and continued through life.

I. The Instinctive Emotions.—The Instinctive Emotions embrace several different classes of feelings; as, Cheerfulness, Melancholy, Sorrow for Loss of Friends, and Sympathy with others. These feelings need both stimulus and restraint; those that benefit us should be stimulated, and those that are an injury to us should be restrained. They should be directed in a proper channel, and be subjected to the control of the judgment.

Cheerfulness.—Every one should cultivate the emotion of Cheerfulness. A cheerful and happy disposition makes our life happy, and disseminates the sunshine of joy around us. Cheerfulness is conducive to health; a sorrowful heart wears out the delicate fibres of the body. Worry kills more people than work. Cheerfulness brings spiritual health also; as Emerson says, "All healthy things are sweet-tempered." The joy of the spirit indicates its strength; and "A merry heart doeth good like a medicine." We should endeavor, therefore, to cultivate in children a merry, cheerful disposition. Sympathize with them in their sports and pleasures; let not sour looks or scolding words check the flow of happiness in their souls. Live to be happy and to make others happy.

Melancholy.—The tendency to Melancholy in a child requires the careful attention of teacher and parent. This tendency is sometimes due to natural disposition, and is sometimes the result of special causes, as the loss of parents or friends. In any case, care should be taken to prevent its becoming a permanent disposition. This can be done by cheerful words, by pleasant surroundings, and by presenting pictures of the bright side of life. Especial care should be taken with those who are a little advanced in years who seem to be falling into a melancholy disposition, for it is often the precursor of insanity. It can usually be cured by a change of surroundings, or by inducing the person to engage in some pleasant employment that will occupy the mind and keep it from dwelling upon its grief.

Social Companionship.—The enjoyment of Companionship is worthy of cultivation. Enjoyment of social life tends to prevent selfishness, and to develop sympathy and geniality of feeling and action. A child who has been brought up without companions is usually selfish and disagreeable. Companionship is a source of happiness; some of the purest pleasures of life flow from the converse of congenial and refined society. It is also a means of conferring happiness on others; the gentle deed, the kindly word and sympathizing smile which social life cultivates, go very far to make life pleasant, and give joy to many a heart. The hater of society, the gloomy misanthrope, is an abnormal development; and is a burden to himself and of little use to the world. It is our duty, therefore, to place children in circumstances where they may develop the love of companionship. For this purpose, our public schools are a great blessing; for in them all classes meet on the same social level, and thus learn to know each other and acquire a unity of feeling and interest.

Sympathy.—The feeling of Sympathy, though instinctive in the human heart, is worthy of cultivation. Sympathy is of great value to the world. It is the source of gentle deeds, loving words, and many of the best influences that bless human life. It inspires mankind to some of its noblest deeds; leads a man to risk his own life to save a drowning child, to rush into the flames to rescue the inmates of a burning building, or to give of his means for the relief of the destitute and suffering of a stricken city. Such a spirit should be encouraged and also controlled. It should not be allowed to operate so as to conflict with the sentiment of duty. The surgeon must not listen to the cries of his patient, nor the judge be swayed by the tears of the wife and children of the criminal. Our aim should be to unfold this feeling in the light of judgment and the sense of duty.

II. THE RATIONAL EMOTIONS.—The Rational Emotions are of three general classes; the Egoistic, the Æsthetic, and the Ethical. In the discussion of the culture of these emotions, we shall speak, under the Egoistic, of Pride and Humility; under the Æsthetic, of Novelty, Beauty, and the Ludicrous; and under the Ethical, of the feelings of Obligation, Satisfaction, and Remorse.

Pride.—The feeling of Pride, when under proper control, gives strength and dignity to the character. When it becomes a predominant feeling, however, it mars the spiritual excellence, and is a source of littleness and weakness. We should therefore be careful to regulate this feeling and its manifestation. We should aim to cultivate a noble pride of character that would scorn to do a base or ignoble act. Care should be taken, however, to suppress all exhibition of vanity, conceit, or haughtiness; as these degrade the character and subject the individual to the contempt of his fellows. Even the highest attainments or endowments lose their lustre when the man is puffed up with pride or indulges in self-laudation on account of them.

Humility.—The feeling of Humility, the opposite of pride, also demands attention in the work of culture. Humility, if not carried to excess, is a valuable and attractive trait of character. It endears a man to his friends, gives added merit to real excellence, and is an especial adornment to high attainments or great deeds. When carried to excess, however, it may disqualify a man for the real duties of life, or prevent him from accomplishing that for which his talents would otherwise qualify him. As a rule, however, humility is a crown of beauty and a robe of honor. It is a virtue that gives superior value to great gifts, and elevates the person in the estimation of mankind. The world delights to honor the man who is great without being proud or vain of his greatness. The man of finest character and greatest influence is he who, under the guise of a modest demeanor, possesses a firm self-reliance and a just confidence in his ability to discharge the duties that may devolve upon him.

Novelty.—The feeling of Novelty is not to be overlooked in culture and education. When properly developed and cultivated, it will give pleasure and interest to life. It is a principle which the teacher can use in making school life pleasant, and in securing the attention of his pupils. The lecturer or preacher must put his discourse in some new or striking form in order to attract and impress the public mind. Care should be taken, also, that the taste for novelty does not lead to unhappiness, and a lack of interest in the commonplace and useful. The boy that is continually thirsting for something new, may become dissatisfied with the sober and every-day face of truth. The man or woman who makes life a search for new things, leads a restless and wasted existence. Truth and beauty are worth more than novelty; and it will be a great mistake in culture to allow a taste for the new and wonderful to eclipse or subordinate the taste for truth and beauty.

Beauty.—The emotion of Beauty is the purest and highest of the æsthetic emotions, and it should be sedulously cultivated. It has a purifying and elevating influence on the character, and is the source of some of the most exquisite enjoyments of life. The mind should be led to linger lovingly among the beautiful objects of nature, to find enjoyment in the figures and sentiments of poetry, to experience an exquisite delight in listening to the melodies and harmonies of music, and to fill the memory and the imagination with the graceful forms of the sculptor's art. Such a love for beauty will flow out into all our actions, and beautify our characters. It will enable us to make houses more attractive, and home life a source of highest enjoyment. It will elevate our tastes and aspirations, and, by its purifying influences, make our souls temples fit for the indwelling of the Holy Spirit.

The Ludicrous.—The feeling of the Ludicrous is worthy of culture. The enjoyment of humor is a source of refined pleasure, giving a buoyancy to the spirit and a zest to life. A person that sees the humorous side of things, finds much to lighten the cares of life, and is a source of sunshine to other hearts. The play of humor in the soul lightens and freshens the spirit, as music does the soldiers on a weary march. A hearty laugh, we are told, doeth good like a medicine. Care should be taken that the taste for humor be refined and elevated; there is no necessary relation between vulgarity and wit. The humorous incidents and anecdotes remembered should be free from coarseness of word or suggestion. The humorous authors should be those of purity and refinement. The droll pages of Dickens, the polished satire of Thackeray, the gentle play of fancy in the pages of Goldsmith and Irving, the delicate wit of Lamb, and the broader humor of Hood, are all adapted to cultivate a healthy taste for the humorous.

The Moral Feelings.—The moral feelings demand attention in this work of education. These feelings are of immense importance in moral culture. The feeling that we ought to do the right has a strong influence in the clear conception of obligation and of the right. So also the feeling of satisfaction and remorse in respect to our actions, and the feelings of approval and censure for the actions of others, aid in the clear development of these ideas. Delicacy of feeling gives added delicacy of perception; and the heart aids the head in moral culture. Conscience, as we have seen, is emotional as well as intellectual. We should, therefore, cultivate the moral emotions. The child's heart may be aroused by incidents of moral action. Fable and fiction serve an excellent purpose in this culture by calling out the moral feelings. A tender and delicate conscience indicates, not weakness and effeminacy of character, but manly strength and dignity.

II. CULTURE OF THE AFFECTIONS.

The Affections consist of two general classes; the Benevolent Affections and the Malevolent Affections. Of these the first class give beauty and excellence to character, while the second class usually weaken and debase it. In the culture of these forms of feeling, the fundamental principle is to stimulate the good feelings and repress the evil feelings.

I. BENEVOLENT AFFECTIONS.—The Benevolent Affections include the Love of Kindred, Friendship, Gratitude, Patriotism, Philanthropy, and Piety. Care should be taken to give due exercise and proper development to each one of these several forms of feeling.

Love of Kindred.—The love of kindred is one of the most important of the affections, giving rise to the family and the home. It is also a feeling which adorns the character and gives beauty to social life. The love of the mother for her child is one of the holiest feelings of the heart; and the reciprocal affection of children for their parents, especially when continued into mature manhood and womanhood, is an admirable virtue. The love of a boy for his mother is a strong influence to protect him from the evils of social life; and the attachment of a daughter to her father is no less admirable and useful. The young man who is ashamed of such a feeling, or who speaks of his father as the "old man" or of his mother as the "old woman," is on the high road to ruin. Special care should be taken in the nurture of this feeling. Parents should be careful to do nothing to weaken these attachments; and children should cherish their parents in their deepest affections.

Friendship.—Friendship is a pure and noble feeling of the soul; a pure and disinterested friendship indicates a large and generous mind. The man whose heart does not go out in warm attachment to some congenial spirit, is wanting in some of the best traits of humanity: it is a mean and selfish mind that does not make a friend of somebody. The sentiment of friendship refines and elevates the soul, in that it is a purely disinterested feeling, springing from no selfish or prudential motives. For a friend, the heart flows out in deeds of affection without any thought of remuneration; our pleasure is another's happiness rather than our own. If adversity comes and "the friends who in our sunshine live" turn away with coldness and neglect, true friendship shows its fidelity by clinging closer to the objects of its love as others neglect and forsake them. The chain of friendship is not broken by death, but continues to bind the heart to the loved one, even when no longer on earth. As with Tennyson in relation to the friend of his young manhood, the feelings of our hearts will rise with a sweet incense of affection toward the loved one in the skies. To evoke and nurture so admirable a sentiment, should be one of the aims of correct culture.

Gratitude.—Gratitude is a virtue that indicates a just and honorable spirit. A lively sense of favors received which manifests itself by words or actions, is a natural feeling of a heart moulded to a nice sense of honor. The man who can receive benefits from another and not experience a warm feeling of gratitude, lacks some of the essentials of true manhood. Unfortunately, however, the selfishness of the human heart frequently makes us insensible of the duty we owe to benefactors. Sometimes the recollection of a favor seems to be a burden to the spirit, and turns the heart against the one who has done us a kindness. Indeed, the lack of a feeling of gratitude is a common fault of humanity, and one that should be guarded against with the utmost care. The idea of duty should come in to stir up the heart to the proper feeling; the sense of justice and the meanness of the neglect of this virtue should arouse the mind to a lively sense of gratitude to benefactors.

Patriotism.—Patriotism is a high and noble feeling of our nature, and should not be neglected in the culture of youth. It is a source of excellence and happiness to its possessor, and a blessing to the country in which one lives. It leads a man to guard the institutions of his country from those influences that would subvert or impair its liberties. Proud of the inheritance of the past, the patriotic heart desires to transmit the institutions unimpaired and even improved, if possible, to coming generations. Under the impulse of this sentiment, a man rushes to the defence of an imperiled nation, willing to die that his country may live. A nation's life is rooted in the feeling of patriotism that lives in the bosoms of its citizens. The constitution of England, the struggles for a United Italy, the convulsions of

France for freedom, and the glory of the American republic, are all the product of the feelings of patriotic hearts. A sentiment so noble in character and so rich in blessings to a nation, should be carefully nurtured in the minds of its youth. The teacher should endeavor to kindle and keep burning the flame of patriotism in the hearts of his pupils, by the recital of the glorious deeds of their ancestors, and by every means that shall make them love their country and watch over her institutions.

Philanthropy.—The feeling of philanthropy is a source of great benefit to the human race. It provides bread for the hungry, wipes the tear from the eye of sorrow, binds up the wounds of the broken-hearted, and aims to relieve suffering in every form. The asylum for the weak-minded and insane, the institutions for the education of the blind and deaf, the hospital for the suffering poor, the school for the orphan and home for the indigent, are all the outgrowth of the feeling of philanthropy. The feeling also ennobles the person, and wins for him the highest respect and fondest recollections of mankind. It is the sentiment of mankind that

Jocri

> "The drying up a single tear has more
> Of honest fame, than shedding seas of gore."

The names of Howard, Wilberforce, Garrison, and Florence Nightingale will grow brighter in the memory of the world with the passing of the centuries. A feeling so rich in honor to its possessor, and so laden with blessings to the race, should be carefully cultivated.

Piety.—The feeling of love that goes out towards the All-Father should not be overlooked in a scheme of education. As this is the highest form of affection, so it lifts the soul into the highest sphere of thought and feeling. Flowing out towards the infinite, it seems to cause the heart to expand and swell with a feeling of infinity. As the soul tends to shape itself to that which it loves, so the love of infinite purity and excellence tends to develop the highest form of purity and excellence in the human soul. God in the heart will tend to infuse godlike attributes into the character. A feeling so rich in its results to the spiritual nature should receive careful culture. The heart should be encouraged in its aspirations after divine perfection, and by reference to his watchful care and loving-kindness, led upward to the Heavenly Father as the highest object of its affection.

II. MALEVOLENT AFFECTIONS.—In respect to the several forms of the malevolent affections, the one rule is that of suppression and control. Envy and jealousy are usually contemptible feelings, and degrade and contaminate the soul. Such feelings should be shunned as we would shun a viper or a beast of the forest. Resentment may be allowed under proper control when it is in the form of indignation at the wrongs of ourselves or of others. Meanness of character, the violation of principle, acts of injustice and oppression, are fit subjects for our indignation. Under such provocations the eye may flash, and the lip quiver, and the voice go forth in words of burning indignation. All feelings of retaliation or revenge, however, are unworthy of a moral being; they are a relic of barbarism, and fit only for the bosom of a savage. By endeavoring to make these principles operative in the hearts of children, we shall do much for that ideal state of society when strife and injustice shall cease, and the law of love shall rule in every heart.

III. THE CULTURE OF THE DESIRES.

The Desires are feelings which go out to an object with a wish of possession or the reverse. They consist of two classes; the Animal Desires and the Rational Desires. The law of culture is to control and repress the lower desires and stimulate and direct the higher ones.

Desire of Food.—The desire of food is a natural feeling designed for the growth and repair of the body. So long as it is under the control of the judgment, it is not an ignoble feeling; but when it breaks away from such control, and the man becomes a glutton, we have one of the most repulsive pictures of humanity. As a rule, not much attention should be given to what we are to eat, except to see that it be nutritious and wholesome. Care should be taken to prevent over-eating, as it is one of the most prevalent sources of disease and death. Alexander is not the only one who has died from over-feeding; men are dying every year from improper indulgence of the appetite. Less attention to the desire for food would be better than more attention to it. Penn's maxim is a good one in eating; "Always rise from the table with an appetite, and you will never sit down without one."

Desire of Stimulants.—The one rule in respect to the desire of stimulants is repression. Total abstinence is the only safe rule. The injury arising from their use is not so much in a single violation of the rule, as in the growth of the desire. In no other desire does the appetite so grow by what it feeds upon The inebriate often knows the injurious effects of his habit, but he has not the power of will to break the chain with which his appetite has bound him. Not infrequently the maddening thought of his enslavement raises the pistol to his brow, and he dies a suicide. The use of opium and chloral is becoming a curse to our country; thousands of lives are being wrecked yearly by these narcotics. We should write the maxim upon the hearts of our youth, that the only certain safety is total abstinence.

Desire of Activity.—The desire of activity is designed by nature to promote our physical well-being. Physical activity is the law of physical health. The young should thus be encouraged in their sports. Facilities for out-door games for both sexes should be provided. Boys should have a noble ambition to excel in base-ball, cricket, foot-ball, etc. The boating club will prove a valuable auxiliary in the development of physical health and strength. For girls, the proper physical exercises are not yet provided; and it is one of the problems of the age what we shall do for the physical education of American women.

Desire of Repose.—The desire of repose is also designed for the health and vigor of the physical system. Nature needs rest as well as activity. This demand is usually complied with instinctively; and but little need be suggested in respect to it. In adult life, however, in this busy, active age, we need more repose.

American manhood is suffering from overwork; and the weakness of the present will be entailed upon posterity. In the busy strife of competition to be rich, or to rise to the highest positions in the profession, we are wasting energy and abridging the period of human life. We are living in a fast age; we live too fast and die too early; we need more frequent and longer intervals of rest. Let teachers and others preach the gospel of repose to American society.

Desire of Happiness.—Happiness is man's birthright; he was not designed for sorrow and misery. The desire of happiness is a stimulus in many departments of labor, and an incentive to high achievements. It is also the source of present enjoyment, for the thought of being happy in the future makes us happy in thinking of it. The common laborer who has a pleasant home, cheers his toil through the weary day by the thought of the happiness that awaits him when the toils of the day are ended. The feeling of happiness is thus not only a light that gives radiance to the present, but irradiates the future with brightness; cheering the present and stimulating us to labors for the attainment of nobler ends. Fill the skies of childhood and youth with sunshine, and plant roses along their pathway; cause the hearts of the young to throb with joy, and they will not only be happy themselves, but contribute to the happiness of the world.

Desire of Society.—The desire of society is an instinctive feeling that contributes to the happiness and welfare of mankind. It is a feeling, however, that should be regulated with judgment. Care must be exercised that one does not acquire the habit of entire dependence on society for happiness. The woman who lives for society alone is not only miserable a part of the time, but becomes disqualified for the proper discharge of the duties of life. Now and then we meet with young persons who shun society, and seem happy only in solitude. This is the other extreme, and is also to be avoided. Efforts should be made to interest such persons in social pleasures. It must be remembered, however, that for the attainment of much that is valuable in life, in art or science, a person must work alone. Solitude is congenial to thought and philosophy; and the works of art are usually the products of lonely hours of imaginings.

Desire of Wealth.—The desire of wealth is a feeling not essentially unworthy of the human soul. To wish for money for the refinement and culture it may bring us, is commendable. Especially is it worthy of a man to wish for money wherewith to make a beautiful home for his family, and to educate his children and place them in comfortable positions in society. To desire property that we may contribute to the happiness of others is even a nobler feeling. The longing for wealth merely for the sake of wealth, or for making a display in the world, or for eclipsing some one else in elegance, is a feeling unworthy of a rational mind, and deserves condemnation. So also the miserly spirit that would accumulate wealth merely for the sake of the money, merits the contempt with which it is usually regarded.

Desire of Power.—The desire of power is a feeling almost universal in the human soul. The value of this feeling, and thus of its culture, depends on the object for which power is sought. If a man feels that he is gifted with the personal and intellectual qualities to exercise control over his fellow-men, and desires this control for their advantage, the feeling is a noble one, and should be encouraged. If control is sought merely for the exercise of dominion, to gratify personal pride, or to secure the applause of the world, the feeling is an ignoble one, and should be suppressed. Inordinate ambition has been the source of untold sorrow and wretchedness; it has shed seas of gore, and piled up hecatombs of victims. Heaven itself, according to Milton, was lost by ambition. A noble spirit recognizes all mankind as brethren, and seeks their well-being, not by dominion, but by moral and spiritual influences.

Desire of Esteem.—The desire of esteem is a strong incentive to exertion. Men will devote years to secure the good opinion of their fellow men; and for future fame they will expose themselves to danger, and even lay down their lives. It is, however, not a safe guide to conduct, for it may lead a person to sacrifice his own principles to gain the approval or applause of others. A man who trims his sails to the breath of public opinion, usually pursues a devious course through life. The entire disregard of public opinion is equally unsafe; we should have reason to distrust that young man who says he does not care what society or the world thinks of him. It may not be improper to try to influence a young person to well-doing by appealing to the opinion of others; still it is a much higher motive to act so as to secure the approval of one's own sense of right. An inordinate love of esteem is unworthy of a truly noble character. The grandest spiritual natures have gone straight forward in the discharge of their duty, unappreciated, misunderstood, and even condemned by their contemporaries, supported by their own sense of right, and relying on the future to explain and appreciate their motives. The fundamental law of human action should be, not what others think of us, but what we think of ourselves.

Desire of Knowledge.—The desire of knowledge is a high and noble feeling of the soul. It is a longing for a possession that gives true dignity to the spiritual nature. Knowledge is the food of the mind, and gives growth and strength to it as material food does to the body. The intellect grows to a higher altitude by means of knowledge, and the growth of the intellect tends to lift the soul up into a higher spiritual life. Knowledge is a possession, too, that belongs essentially to its possessor, and cannot be taken away from him. It is a treasure stored where neither moth nor rust can corrupt, and where thieves cannot break through and steal. It elevates character by lifting a person above the desires of sense and physical gratifications, and is thus a means of moral culture. It is also a source of the most refined enjoyment. A person fond of knowledge can cheer his hours of solitude by holding communion with the rarest minds of every age, and thus be in the best society when he is most alone. It needs no suggestion to lead us to give fullest culture to this desire for knowledge.

THE WILL.

I. NATURE OF THE WILL.

- I. General Nature of the Will.
- II. Freedom of the Will.

II. CULTURE OF THE WILL.

- I. Importance of Culture.
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III. HIGHER SPIRITUAL CULTURE.

THE WILL.

CHAPTER I.

THE NATURE OF THE WILL.

THE WILL is the power of deciding or determining what to do, and of putting forth volitions accordingly. The exercise of the will is called *willing;* the act of the will is called a *volition.* Volitions are of two kinds, *decisions* and *executive volitions.* The Will may thus be defined as the *power of putting forth volitions.* It is the executive power of the mind; the power in which originate our purposes and voluntary actions.

Two Elements.—This definition of the will makes it consist of two distinct elements. It gives the will two distinct functions; one of making a choice or decision, and the other of putting that choice or decision into an act. To illustrate, suppose two objects, A and B, are before me; I look at them both and decide to take A; this decision to take A is an act of the will. Following this decision, I will that my hand shall go forth to take the object I have selected; this also is an act of the will.

Elements Distinct.—These two elements or activities of the will are entirely distinct. It can choose or decide between two objects, and this choice is an act of the will. The act of the will may stop here; the mind may change and the choice or decision never be put forth into executive volition. Or the mind may follow up its decisions and will to do what it decided to do. The act of choice may be followed by another act of the will which puts the mind or body into action in accordance with the choice or decision.

Will not Distinct from Mind.—Care must be taken in the study of the will, not to think of it as something distinct from the mind. The action of the will is the mind willing; the power of the will is the mind's power to will. My will is my power to choose or put forth volitions; my willing is my exercise of this power. It is the *I*, the *ego*, that thinks, feels, and wills.

Elements of the Will.—If we analyze an act of the will, we shall find that it embraces or implies four distinct things. First, there must be an object to be accomplished,—a something to be done. Second, there must be some reason for the action,—some reason why I decide and put forth the volition as I do. This reason why is called the *motive.* Third, there is a choice between objects; I select one thing in preference to another. This selection is called *choice.* Fourth, there is the will effort to act in accordance with this choice; a volition to carry out my choice into action. This is called the *executive volition.*

Illustration.—For illustration, suppose I sit at a table and reach forth and take up a book. Here the book was the object to be taken. There was also some reason why I took the book rather than some other object upon the table: I wished to read it, or look at its engravings, or remove it from the table. Then there was a choice or a selection: I chose this book rather than some other book or some other object; or if there was but one book, I chose between taking it and letting it remain. Fourth, there was the will effort that moved my hand to take up the book, or the executive volition.

The Essential Elements.—Of these four elements or conditions that enter into an act of the will, the object to be accomplished is independent of the mind, and is therefore not to be regarded as an element of the will. The motive, also, though subjective, a mental element, is not an element of an act of the will; but it is so intimately related to an act of the will that it requires discussion in the treatment of the will. The essential elements in an act of the will are the *choice* and the *executive volition*, as is indicated in the definition. In discussing the will, however, we shall speak of three elements, the motive, the choice, and the executive volition.

I. The Motive.—The motive is the reason why we choose and put forth our volitions as we do. It is the mind's incentive to action, its reason for its actions—at least, all its voluntary actions. Such a condition or antecedent is always implied in a voluntary action; we cannot conceive a mind as acting without some reason for its action. The motive may be more or less clearly defined in consciousness; it may be a mere impulse of feeling, or a definite judgment of the understanding, or a clear conception of the reason,—but some motive there must always be for our choices and executive volitions.

Used in Two Senses.—The term *motive* is used in two distinct senses. First, any reason which I may have to do or refrain from doing anything, is called *a motive.* Second, the particular reason I had for doing anything that I have done, is called *the motive.* According to the first use of the term, I may not act in accordance with some of my motives; in the second use of the term, the action always represents the motive. *A* motive is *a* reason for an action; *the* motive is *the* reason for the action. Motives are thus both reasons prompting towards an action, and reasons for acting as we have acted. In the strictest sense, only the latter is called a motive; motives being not merely a reason for an action, but the reason why I acted as I did act.

Motives Subjective.—A motive, it must be remembered, is purely subjective; it is a product of the mind, and belongs to the mind and not to something external to the mind. The orange before me is not a motive for action; it is some liking for it or some reason for possessing it that is the motive. This idea is of vital importance in comprehending an act of the will and its relation to motives. All such definitions of motives as "that which incites the mind," "that which inclines the mind," "that which influences the mind," "every influence that may bear upon the mind as an inducement to action," etc., are not only absolutely wrong, but fatally misleading in their influence. Putting the motive outside of the mind, they convey the idea that our actions are caused by external influences as an apple falls from the tree under the influence of gravity. It is from such misconception of the nature of motives that the doctrine of the freedom of the will has been so obscured and misunderstood.

Classes of Motives.—All of the motives of the mind have been embraced under two general classes; *desires* and the *sense of duty.* Both of these classes of motives are the occasion of our actions. Sometimes we find ourselves acting from the desire for that which is agreeable to us, and again we act in accordance with our idea of what is right. It is not improbable, however, that there are other motives not immediately included under these two heads of desire and duty. Thus the understanding, in either judgment or reasoning, may also furnish conclusions and opinions that pertain neither to the agreeable nor to our sense of right, which may be motives to our actions.

Relation of Desire and Duty.—Desire and duty being very prominent motives, a few words may be said in respect to their relation. Sometimes these two classes of motives act in unison; frequently, however, there is a conflict between them. When they act together, the mind has a very strong motive for its actions. In case of conflict, sometimes we decide in favor of one, and sometimes in favor of the other. Now we yield to our desire, and, regardless of consequences, do that which we know to be wrong, and which may bring suffering and wretchedness. Again, we follow the sense of duty, even though it may result in apparent evil, sustained by the approval of a conscience void of offence.

Motive not a Cause.—A motive is not to be regarded as a *cause* of our actions: it is not the cause, but rather the *because* of actions. The motive is not something that attracts or pulls the mind in a certain direction, as gravity pulls a stone towards the earth. It is rather the reason why the mind decides to act as it does. The mind is its own cause of actions. It is the source of its own motives and of its own actions. It is thus the cause of its own actions, and it is incorrect to suppose these actions caused by anything else. The will is a cause; action is the effect; motive is the reason why the will causes as it does. This conception lies at the basis of a correct notion of the will.

II. THE CHOICE.—Choice is the action of the mind in deciding or determining what to do. It is the act of selecting one of several objects. The power of choice is the capacity of selecting among several objects. Choice is the putting forth, or exercise, of this power. Thus two or more objects are presented to the mind, and I decide which one I shall take. This decision is my choice. Or a single object is before me. and I can take it or reject it; whichever I do, that is my choice.

An Essential Element.—Choice is an essential element of an act of the will; it is an element necessarily involved in the conception of a rational will. A volition, except in our spontaneous actions, implies a selection or choice. When two or more objects are before the mind and it takes one of them, it does so in virtue of some choice between them. Or, when a single object is to be taken or rejected, and we take it or reject it, we do so as a matter of choice. In every voluntary action of a rational mind, there is implied the element of choice. The voluntary acts of the mind are usually preceded by deliberation and choice.

Choice Equivalent to Decision.—The power of choice is equivalent to the power of deciding or determining. The act of deciding is an act of choice; decision and choice are one and the same thing. To decide is to choose, and to choose is to decide. We may thus define the will as the power of choosing and putting forth volitions accordingly. Choice is thus to be regarded as an act of the will; it is itself a volition. It may be followed by another volition or not; but in any case, it is itself to be regarded as a volition.

Volition Without Choice.—There seem to be some acts of the will without a decision or choice. Some acts appear to be purely spontaneous; there is an executive volition without a decision or determining what is to be done. We sometimes will to do something without making any choice between two or more objects or courses of action. In such cases, there is no act of choice, but an immediate and spontaneous executive volition. The action, however, is a voluntary action; not an involuntary one, or else it would not be an act of the will. Many of the acts of the intellect and sensibilities are purely spontaneous, without any hesitation or choice: we often judge, reason, love, hate, etc., without making any choice or decision in respect to these actions. Sometimes, also, these actions are purely involuntary, and do not involve any act of the will.

Diversity of Objects.—Choice implies diversity of objects. If there were but a single course of action possible, there could be no choice in respect to it. We can, however, imagine no case in which there is not a diversity of objects; for even if there is but a single thing to be taken, we can decide between taking it and leaving it alone,—which is really a choice between two things. The mind cannot be placed among circumstances so that there is no diversity in the object of its choice; there is always an open alternative in the decisions of the will. Choice implies an alternative, and a possible alternative.

Liberty of Selection.—Choice implies not only a diversity of objects, but also the liberty of selection among those objects. There can be no choice unless the mind is at liberty to select. Anything which would interfere with my liberty of selection would interfere with my choice; and to prevent liberty of selection would be to destroy choice. No circumstances, however, can deprive me of the liberty of selection. You may command me to burn incense on a heathen altar under penalty of death for refusal: I can choose to do it and live, or I can refuse to do it and die. In both cases, I choose freely and have the liberty of selection. If by physical force you carry me to the altar and make my hand pile on the wood and apply the torch, the act is not mine, but yours; but even in this case I selected freely the not-doing of the act.

Choice Free.—Choice, in its very nature, implies a free choice. To say that I chose, implies that I chose freely; choice that is not a free choice is not choice. The power to choose implies that any one of several objects before me could be taken; if this were not so, there could be no choice. We are always free to choose between two or more circumstances. The circumstances may influence our choice, but they do not determine it; we determine freely which of the circumstances we shall select. A free choice—and there can be no other—is called an *election.* The will, in its first operation, may thus be defined as the power of election. These three terms,—*deciding*, *choosing*, and *electing*,—are all used here in the same sense.

Deliberation Implied.—Choice implies deliberation, a balancing and weighing of reasons, a comparison and estimation of the several ends proposed. I perceive several different objects to be accomplished, and am conscious of different feelings and judgments in respect to these objects, some tending towards a choice in one direction and some in another direction. My desires may influence me to one course of conduct, my judgment of what is prudent to another, my sense of duty to another. I hesitate and deliberate in making up my mind which one of the several courses I shall pursue. The process may be very rapid, so rapid that I am not conscious of it; or I may hesitate long in suspense between conflicting motives. Some deliberation is always implied, however, in all of our choices.

The Final Decision.—Following this deliberation is the decision in some one direction. We make up our minds what course we shall pursue. This is the choice, the determination, the final decision. It is the first one of the two dual acts of the will. Choice is thus a volition. It may not be carried out into the following act, or executive volition. Something may prevent my doing what I decide to do; the opportunity may not occur, or I may change my mind in respect to the matter; but so far as I made a choice, that mental act is an act of the will.

III. EXECUTIVE VOLITION.—Having made our choice, the next step is the act of the will in the executive volition. We will to do what we have decided to do. If the choice involves a physical act, we will to put the body into action to produce it; if the choice requires only a mental action, we will to put the mind into exercise to carry out our choice. The choice thus becomes imbodied in the act, and the act, as the representative of this choice, becomes a fact in the history of the universe.

Differs from Choice.—The choice and the executive volition are both acts of the will: there is an important difference, however, between them. The former is not necessarily followed by the latter. All choices are not represented in executive volitions. Thus, I may decide to-day to go somewhere to-morrow; but I do not put forth the executive volition to go until to-morrow. I may change my mind and not put forth the volition to go at all. In such a case, the choice was complete, but never went out into executive volition. The will acted, but only in its first phase of "deciding or determining what to do," but not in "putting forth volitions accordingly."

Volition When Complete.—The executive volition may be complete, even if it is not always followed by the deed designed. The thing intended may be impossible; or other bodies, moving in obedience to other wills, may prevent; or disease may palsy the frame so that it may not obey the mandate of our wills. Still, if we put forth the executive volition, the mental act is complete; as a mental act the volition stands as a fact in the universe. If the intended action involved a moral element, even though the deed was not accomplished, our volition stands to our credit or discredit, according as the contemplated act was right or wrong.

IV. CORRECT CONCEPTION OF THE WILL.—We have thus seen that the conditions of an act of the will are,—first, an object to be accomplished; second, the motive for doing or not doing the action. We have also seen that an act of the will consists of two elements: first, a choice or decision what to do; second, an executive volition to carry out the choice into an actual fact. We are now prepared for some general remarks upon the will which grow out of the foregoing analysis, and which will enable the student more fully to understand its nature and its operations.

Will an Active Power.—The Will is an active power. It is not a mere susceptibility to be impressed and influenced; but a power for action. It is the source of all the voluntary acts of the other faculties. It is the reigning, the dominating power of the mind. It sets the other powers into activity and controls their action. We will to perceive, to judge, to reason; all the faculties act, more or less, under the control of the will. The will is the source of their actions, and also the source of its own actions. In other words, I, as a rational being, have the power to put my faculties into activity and direct them; and this power is called my will.

The Will a Cause.—The will is thus the cause of our actions, both mental and bodily. The will determines, and the intellect proceeds to perceive, or remember, or judge, or reason, in accordance with the volition. The will decides to move the arm or foot and puts forth the volition, and the arm or foot moves in obedience to the mandate. There may be actions that are involuntary, both mental and physical, but the will is the source of all voluntary activity.

Will a First Cause.—The will is the source of its own actions, and thus the cause of its own actions. The cause of a volition is not something without the will, but rather the will itself. Nothing causes the will to act; it is its own cause. The will is thus regarded as a first cause; or as a cause uncaused. This is the only true conception of a rational will. If this is not admitted, there is no such thing as a rational will.

View of Hamilton.—This view has been held, with more or less distinctness, by various writers. Hamilton says, "Will is a free cause, a cause which is not an effect, a power of absolute origination." It is proved so in two ways; first, *directly*, by an immediate testimony of consciousness to the fact; second, *indirectly*, it is implied in our consciousness at once of an uncompromising law of duty, and of our being the accountable authors of our actions.

This Conception Difficult.—The conception of the will, as a cause uncaused, as a first cause, is a difficult one, some say an impossible one. Hamilton, while he holds that we must admit it to be correct, says, "The fact of a free volition is indeed positively inconceivable." Still, however difficult, it is a necessitated conception. The difficulty is no greater than in some other beliefs which we regard as certain and necessary truths. Space and time, we know, are infinite; we cannot fully grasp their infinitude, yet we are compelled to admit it. We are compelled to admit some things to be true which we cannot fully comprehend nor explain. So with the will as a first cause; we know it to be a primitive source of action, without being fully able to comprehend or explain it. This is the glory of mind, that it originates its own motives and actions; the mind is a spiritual centre of thought, feeling, and action.

THE FREEDOM OF THE WILL.

I. NATURE OF FREEDOM.—Freedom of the will is the power of exercising the will without hindrance or restraint. It is the power of deciding and putting forth volitions freely. In other words, it is the power of choosing freely any one of several possible objects, and of putting forth our volitions freely in the direction of our choice.

A Freedom from.—This definition refers to the action of the will in making some choice. The will is also free in refraining from making any choice. There is thus a freedom *from* as well as a freedom *to;* a freedom from making any choice and from putting forth any volition, as well as a freedom to make a choice and put forth volitions. In this case, we may say there is also a choice,—a choice not to choose any one of several objects, though there is no executive volition. This alternative of not choosing any given object may, in a large sense, be reckoned among the objects of choice, and is thus provided for in the definition of freedom given. Whedon embraces this idea in his definition that freedom of the will is the power or immunity to put forth in the same circumstances any one of several volitions.

Another View.—A popular view of freedom is that "the will is free when we can will to do just as we please." This view, however, is misleading if not erroneous, on account of the ambiguous meaning of the "please." In one sense of the word I can do what I do not *please*, that is, I can do what I am not *pleased* in doing. If the term "please" is used as equivalent to *choose*, then the definition of freedom becomes tautological, since choosing is an act of the will. To say that the will is free when we can will to do just as we choose, is equivalent to saying that a choice is free when it is a free choice, or an act of the will is free when it is a free act. We sometimes distinguish between *willing* and *choosing*, regarding willing as related to the executive volition; and it is then proper to say the will is free when we can choose freely and will as we choose. It should be remembered, however, that choosing is an act of the will.

Freedom Disputed.—The freedom of the will is a disputed question. Some very able thinkers have doubted and even denied the doctrine of the freedom of the will, and others, while they seem to have believed in freedom, have not been very successful in establishing the doctrine. It is one of the cardinal principles of the materialistic school of philosophy to deny the freedom of the will. Buckle represents the views of this school when he says, "Freedom of the will is a myth."

II. ARGUMENTS FOR FREEDOM.—There are several distinct classes of arguments that may be adduced in favor of the freedom of the will. The most of these arguments may be combined under four general heads. First, there is a general conviction in favor of freedom. Second, we are in a sense conscious of freedom. Third, man's moral nature is a presumption in favor of freedom. Fourth, the consequences of the opposite doctrine afford a presumption in favor of freedom.

A General Conviction.—The first argument in favor of the freedom of the will is that there is a general conviction in favor of freedom. This general conviction is shown in several ways. First, it is affirmed, directly or indirectly, by all men. Second, it is shown in their opinions and actions. Third, it appears in the language and literature of every people.

Force of such a Conviction.—Such a conviction carries force with itself. There are some truths that are fixed in the mind as fundamental principles, immutable and unquestionable. The conviction of freedom seems to be one of these truths, and men would as soon question their personal identity as question their freedom. No arguments to the contrary can shake their belief in this truth, and none in favor of it can strengthen it.

Consciousness of Freedom.—It has been held by some writers that the freedom of the will is a fact of consciousness. This, however, is liable to be misunderstood. We are not, strictly speaking, conscious of the freedom of the will, but rather of a belief in its freedom. Consciousness reveals what is now in the mind, and not what was in the mind. There is a sense, however, in which we may appeal to consciousness for an argument in favor of freedom. When I make a choice, I am at that moment conscious that the choice is a free choice. I am also conscious, at the time of putting forth an executive volition, of the power of putting it forth and the power of withholding it. In this sense, consciousness presents a strong argument in favor of the freedom of the will.

Man's Moral Nature.—A strong argument in favor of freedom of the will is drawn from man's moral nature—from his ideas and feelings with respect to moral actions. This argument includes several distinct parts which will be briefly stated.

First, *Freedom is indicated by the idea and feeling of obligation.* We cognize the right and the obligation to do the right; and have also a strong feeling of obligation to do that which we believe to be right. Now, if we did not assume that we are free to do what we think is right, we could have no feeling of obligation in respect to it. I do not feel that I am under obligation to do what is impossible; it is only when I can do a thing that I experience the feeling that I ought to do it. If I did not believe my will to be free, the idea or feeling of obligation could not arise in my mind.

Second, *Freedom is indicated by our approval and disapproval of human action.* I look at my own actions, and I say I did right or I did wrong. Now, if I had no power over these actions, if I were a mere machine, such an idea would be impossible. I do not approve or disapprove of the action of an inanimate object of nature or art. A locomotive runs over a man and kills him; but I never feel like blaming the locomotive for the act, because it had no freedom in the matter. It could not help doing what it did, and is thus in no way accountable for the death of the person. What is true of my own actions is also true of the actions of others. I approve or disapprove because I believe that they could have done otherwise than they did.

Third, *Our feelings of satisfaction and remorse indicate the freedom of the will.* When we have done what we think to be right, we have a feeling of secret complacency; when we have done what we believe to be wrong, a feeling of remorse tortures the soul. These feelings would not be possible if we believed that our actions were beyond our control and that we did not act freely. The similar feelings that go out to other persons are based on the same belief. We would have no feelings of censure or approval for the acts of a person if we did not believe those acts were free acts.

Fourth, *Our view of crime and the justice of its punishment indicates the freedom of the will.* There is an instinct of justice in the human mind. All men feel and believe that justice demands that a criminal shall be punished for his crime. When a man has wronged his fellow men, we believe that he should not only be placed where he can do no more harm, but that the wrong demands punishment also. These four considerations are strong presumptive evidence in favor of the freedom of the will.

Consequences of the Opposite.—The consequences resulting from the position that the will is not free, are themselves an argument in favor of freedom. If we have no power over our volitions and actions, we surely cannot be held accountable for them. The stone which must fall by the influence of gravity, or the bullet which goes as forced by the powder, are not held responsible for their motion, even if they produce injury and death. So if man is moved by external causes and has no control of his actions, he should not be held responsible for those actions. This is the doctrine of *fatalism*, and many fatalists accept this conclusion. Diderot says, "Examine it narrowly, and you will see that the word liberty is a word devoid of meaning; that there are not and cannot be free beings. . . . The motive is always exterior and foreign, fastened upon us by some cause distinct from ourselves . . . But if there is no liberty, there is no action that merits either praise or blame; neither vice nor virtue; nothing that ought either to be rewarded or punished . . . The doer of good is lucky, not virtuous . . . *Reproach others for nothing, and repent of nothing; this is the first step to wisdom.*" Remorse is regarded as a feeling which arises from the belief that we might have chosen and acted differently from what we did, and this is called a "fallacious feeling." These legitimate consequences of the opposite doctrine, so contradictory to human thought and feeling, are a very strong proof of the doctrine of freedom.

III. ANSWER TO OBJECTIONS TO FREEDOM.—There have been many objections presented to the freedom of the will, some of them difficult to answer, and many of them so plausible as to lead to the denial of freedom altogether. Many of these objections, however, indicate a misconception of freedom, and some of them, when carefully analyzed, will be found to be illogical and absurd. We shall endeavor to answer the principal of these objections.

Influence of the Sensibilities.—It is claimed that the will is influenced by the sensibilities, that our actions are determined by our inclinations, and are thus not free. In reply to this, it may be said that if we choose freely among our several inclinations, the choice is a free one. Again, it is not true that our actions are always controlled by our inclinations, for we can modify and even oppose our inclinations. The will stands back of and can direct and control and antagonize any given inclination. We can tread our evil inclination under foot, rise above it, and stand in our freedom against the strongest desire or passion. The will is king of the feelings, and sits among them with the crown of freedom upon its brow.

Power of Contrary Choice.—It is objected that freedom of the will assumes the power of *contrary choice*, and that there is no such power. That is, when I put forth a volition I cannot, at that moment, *all things being as they are*, put forth a different volition. This, however, is an objection of weight only to the superficial thinker. In a certain sense, we have the power of contrary choice, that is, when we choose A, we might have chosen B, had we so preferred. In the sense, however, in which the objectors use it,—the possibility of choosing otherwise than we did, all the conditions being unchanged,—no such power is needed for the freedom of the will, nor is there any such power. Thus, suppose a man had chosen A instead of B; if he were placed again in the same circumstances, with the same mental conditions, he would inevitably choose A, and not choose B, no matter how often the experiment were repeated. The choice of A was freely made; and it is impossible *for the same mind, under the same circumstances, with the same reasons*, to choose otherwise.

It must be remembered that man's will is a rational, not a blind will. He has a reason for his choices. In all carefully considered actions he chooses freely according to his *best* reason. To choose according to a weaker reason would be absurd. Thus the will can be perfectly free without the possibility of a person's making a choice different from the one he did make. Suppose a conscientious man chooses truth instead of falsehood, it would be absurd to say he does not choose truth freely because it is morally impossible for him to choose falsehood. Only a superficial mind, or one entirely misconceiving the action of a rational will, could be misled by such an objection.

Influence of Disposition.—An objection is presented to the doctrine of freedom by the question, Can we do what we are not *disposed* to do? If I have no disposition to do a thing, can I do it? If I have a disposition to do one thing, can I do another thing? The reply to this objection depends upon its meaning, which is not always apparent. If by *disposition* is meant the influence of the *feelings*, it has already been answered. If it means the decision of the *judgment*, then we say that we can choose freely in accordance with our judgment of what is best. If we have no judgment as to which choice we should make, then it would be irrational to choose, and we expect no such actions of a rational will. There is thus a fallacy in the statement and its implication. This fallacy is frequently expressed in the question, Can I do what I am not *inclined* to do? We reply that *we are not inclined*, we have *power to incline.* The correct conception is *I incline*, not *I am inclined.* So also in respect to the term *disposition;* the correct conception is *I dispose*, not *I am disposed.*

The Strongest Motive.—One of the most plausible objections to the freedom of the will is the assertion that the *will is determined by the strongest motive.* The fallacy of this argument can, however, be readily seen, and the objection answered. First, the will is not *determined* by the motive; the will is itself the *determiner*, and motive is only the reason for its determinations. The mind is the source of its own motives, and thus the source of its own actions. The motive is not something external to the mind and controlling it; the motive is merely the reason why I act as I do. Second, what is meant by the strongest motive? How do we know which is the strongest motive? The mind selects one motive or acts in accordance with one motive; and this is the only way we have to determine which is the strongest motive. There is no strongest motive *per se;* the strongest motive is merely the selected motive. The question thus is, Does the selected motive determine the will in its selection? We answer, No; the will is the determiner, and selects freely among the motives the one which is its best reason for an action. To say that the "motive prevails" is absurd, and shows an ignorance of the nature of the will; it is my mind that prevails. I am the source and centre of my own motives and thus of my actions;

and I willing and acting is what we mean by my will willing and acting.

Motives the Cause.—The conception of the motive as the *cause* of the volition leads to a denial of the freedom of the will. If the motive is the *cause* and the act of the will the *effect*, then the will is caused to act by something exterior to itself, and thus does not act with freedom. This is also an incorrect conception of the relation of motive to the will. The motive is not a source of action, but merely a reason why the will acts as it does. The motive is a *because* but not a *cause* of our action. There is a cause why a stone falls towards the earth; it is gravity. There is a reason why the mind wills and acts as it does; it is the motive. The mind is not a passive thing, moved by some cause external to itself, like a stone or an apple, and compelled to act in a certain way. The will itself is a cause of its own actions; it is a self-originating power. The will decides and chooses freely among the various motives of the mind, and being a rational will, is supposed to act in accordance with its best motive or reason why.

Dictum Necessitatis.—The celebrated argument of Dr. Edwards against freedom, called the *dictum necessitatis*, is as follows: "If we should thus cause a volition, we should doubtless cause it by a causal act. It is impossible that we cause anything without a causal act. And as it is supposed that we cause it freely, the causal act must be a free act, *i. e.*, an act of the will, or volition. And as the supposition is, that all our volitions are caused by ourselves, the causal act must be caused by another, and so on infinitely, which is both impossible and inconceivable." That is, if the mind *causes a volition*, it must first *act to cause it*, and *this causative act* is a *volition*, which requires *another causative act* to produce it; and so on *ad infinitum*.

Reply to This Doctrine.—The fallacy of this objection lies in the statement that a *causative act* needs a *previous causative act* to produce it. The true conception is that *the causing of a volition is the causal act which produces it.* Any given *volition* is the *causal act* which gives birth to that volition. When the will chooses, that choice is independent of any previous choice; it needs no previous choice in order to choose. The error of Edwards arose from his not being able to conceive the mind as a cause of its actions. This is a necessary conception of a rational will. The will is the cause of its own volitions. The *will acting* is the cause of any *given volition* of the will. The will is itself a *cause*, a *first cause*, an *originator* of choices and volitions.

A Similar Objection.—A similar objection is applied to the *freedom of choice.* Thus, *every act of the will presupposes a selected motive.* A *selected motive* implies a previous act of *selection*, which was an *act of the will.* This *act of the will* presupposes a *selected motive*, which, etc., giving an infinite series. The reply to this argument is that the statement is incorrect or misleading. The *selection of a motive* is itself an act of the will; the *selecting of a motive* is the act of the will which selects it; to select a motive is an independent volition depending on no previous act of the will. The simple statement is as follows: Objects A, B, and C are before me; motives *a*, *b*, and *c* arise in the mind; I select *a* as the best reason why. The *selected reason why* is the *reason why* I selected it. There is no series; the act of choice is independent and initial. No previous selected motive is supposed.

Conclusion.—The answer to these objections, in connection with the direct arguments, will, it is thought, satisfy most minds as to the doctrine of the freedom of the will. It should be remembered, in the consideration of the question, that man does not always act in accordance with his prerogative of freedom. He often gives way to his lower impulses, and becomes a slave to his passions and his appetites. But he has the power to resist these impulses and to stand in the strength and dignity of his manhood with the crown of freedom on his brow.

CHAPTER II.

THE CULTURE OF THE WILL.

THE WILL is the source and centre of action. In it man becomes a self-originating force in the world. The will embodies the ideas of the mind and the desires of the heart in living deeds. The history of the race is a record of the thoughts and purposes of mankind, crystallized into facts by the power of the will. This power is therefore of great value to man and demands careful culture.

I. IMPORTANCE OF THE WILL.—The value of the will as the executive power of the mind is readily apparent. Without it, none of the other powers of the mind would be of much use to us, as all voluntary mental activity is due to the will. A strong will gives energy to the faculties, and holds them true to the task at which they are employed. It thus lies at the basis of all high achievements in the intellectual world. Strength of will also gives a force to character that makes a person a centre of influence in society, and thus contributes to his happiness and success.

Value to Thought.—The will gives power to thought. The solution of a difficult problem is due not merely to intellectual ability, but to the will that controls the thought. Newton said he discovered the law of gravitation by incessantly thinking about it. The will power involved in writing a work like the *Mécanique Celeste* is almost as wonderful as the intellectual ability. It is unremitting mental activity in which the will is the controlling influence, that builds up our systems of science and philosophy. The triumphs of science are embodiments of a resolute purpose as well as of scientific genius.

Value to Discovery.—The will has been of great value in the sphere of discovery and invention. It holds the mind faithful to an idea through years of disappointment and failure, until at last success crowns the effort. Sustained by an indomitable will, Columbus travelled from court to court, bore up under rebuff and ridicule, braved the storms and dangers of an unknown ocean, stood calm and resolute amid the murmurs and threats of a mutinous crew, and at last raised the standard of Spain on the soil of a new world. The Goodyear invention is a monument to the patience, courage, long-continued experiments, and almost fanatical faith of the inventor. Dr. Kane saved his companions from Arctic graves by a sublime manifestation of an intelligence controlled and impelled by an overmastering will.

Value to Oratory.—Strength of will is often of great value to the orator. The effect of language is heightened when it is felt to be charged with a determined purpose. It is the man behind the word that gives it power; and the man is thought and feeling embodied in the will. Words that come up out of the heart glowing with feeling and are sent forth with a commanding purpose, make an impression that is felt. The Philippics of Demosthenes were not only eloquent in thought, but also eloquent in courage. The firmness and intrepidity of Otis, Adams, and Henry gave weight to their arguments and appeals, and stirred the hearts of the people to resist British aggression. In Webster's memorable reply to Hayne, we have a picture not merely of a gigantic intellect, but of leonine firmness and tremendous energy of will that was determined to conquer.

Value to Military Success.—Strength of will is necessary for military success. It has been a distinguishing characteristic of all the great military leaders. The determination to succeed does as much for victory as the skilful strategical combinations. The victory, as some one has remarked, often depends on which party can stand pounding the longest. It was said of Taylor, who sent the reply to a summons to capitulate, "Gen. Taylor never surrenders," that he did not know when he was whipped.

The military genius of Gen. Grant is expressed in his celebrated dispatch, "I shall fight it out on this line if it takes all summer." When told that it was impossible to take his army over the Alps, Napoleon replied, "Impossible is the adjective of fools," and "There shall be no Alps." Wellington's victory at Waterloo was largely due to British stubbornness. Cæsar and Alexander were impersonations of tremendous will power, as well as great genius in military strategy.

Value in Government.—A strong will is essential to those who would lead public opinion. There must be leaders in society. Mankind rally around some firm and daring spirit who has the courage of his convictions and gives them expression in word and deed. Every great social movement or political reformation has a strong will at the centre. The courageous hearts of the great barons forced from a tyrannical king the charter of freedom. The firmness of Hampden and Cromwell destroyed the assumption of the divine right of kings. The gentle firmness of Lincoln upheld the fainting heart of the nation, and gave it courage during more than one dark hour of our civil war. Men gather around a strong will in times of danger and disaster, and draw inspiration and confidence from its unflinching self-reliance.

Value in Religion.—Strength of will shows most conspicuously in religious belief. Here the will, throned in the principle of faith in the infinite, holds a man true to his convictions amid persecution and denunciation, and even crowns him with the chaplet of martyrdom. Savonarola not only thrilled Italy with his eloquence, but made the Piazza della Signoria celebrated by his martyr's death for his faith. Luther was, in purely intellectual ability, perhaps inferior to Melanchthon; but his heroic will nailed the theses on the church doors of Wittenberg, and led him to exclaim, "I will go to Worms though there were as many devils on the way as there are tiles on the house-tops." In an hour of weakness Cranmer could sign a recantation of his faith, but a few months later, with a firmer courage, he could hold the hand that had written the recantation in the flames until it was consumed. In every age and in every faith, men have shown a sublime courage in suffering and dying for what they believed to be the truth.

Value for Success.—Fidelity to a purpose is an inexorable law of all high success in life. Noble thought and elevated feeling are not sufficient for the accomplishment of life's duties; a man must put his will into his thought and feeling, and let them flow out into action. The great deeds of the world were not the products of great intellects so much as of strong wills. It is tireless energies and courageous hearts that succeed. Moderate intellects, strong feelings, and a commanding will, have attained to the highest successes of life. To the power of the imperial will hardly anything is impossible. It spans rivers, bores mountains, fills up valleys, commands senates, crushes armies, humbles proud empires, and binds together disunited states into one grand commonwealth. All high success in the active duties of life depends on a courageous heart and a resolute will.

The Will gives Courage.—This work of the will is largely due to its endowing the soul with the attribute of courage. The victories of life are won, not by the timid, but by the brave. "Faint heart never won fair lady," nor any other of the world's choice prizes. Life is a campaign; we must fight for the triumph of the right. Coward hearts faint in the battle; the victory belongs only to brave and valiant souls. Courage means victory. At the battle of Chickamauga, Gen. Thomas called out to one of his officers, "Col. George, how long can you hold this pass?" "Until the Second Minnesota is mustered out of the service, sir," replied the gallant colonel. They held the pass. All great victories in life are won by the same determined spirit. Wise heads, brave hearts, and strong wills, form a trinity of powers which conquer the world.

Value to Character.—A strong will is essential to personal excellence. The will gives strength and dignity to character. We admire the man of fixed opinions and inflexible purposes; we pity or scorn the man of vacillating mind and wavering intention. "The double-minded man is unstable in all his ways;" at the mercy of everybody's opinions, he is "like a wave of the sea, driven with the wind and tossed." A truly noble character must be moulded about a firm and steadfast purpose. Firmness and courage are so essential to true manhood that even a bold, bad man often commands more admiration than a timid, good man. The courage of Satan in "Paradise Lost" almost makes one forget that he was the devil. For a high and noble character, we need not only goodness, but virtue enthroned in a resolute will. Such a character is not boisterous and braggart; true courage is usually modest in its demeanor, as if conscious of its strength. Gentleness, firmness, and moral purpose, united in one personality, present a beautiful picture of ideal manhood. At the centre of every great character there must be a strong, firm self-reliance, that moulds the actions to the thought, and moves forward amid opposition and persecution calm and undismayed.

II. Methods of Cultivating the Will.—These statements of the value of the Will give emphasis to the importance of its culture, and the teacher's duty in relation to it. This culture is more difficult than that of the intellect; though much can be done by the intelligent and judicious teacher. The three fundamental principles to guide us in training the will are—*Stimulation*, *Direction*, and *Control.*

Stimulation.—The first principle for the culture of the will is that of *stimulation.* The weak will needs to be stimulated to activity. The timid, diffident, unreliant lad needs to be taught courage and self-reliance. The hesitating, vacillating mind must be trained to decide with promptness and to stand true to its decisions. Sometimes the defect of will is not so much in real weakness of will as in indecision. The dreamy, poetic mind that, like Hamlet, has its ideal, but is unable to put forth its energy to attain it, should be incited to activity by a sense of duty, and be trained to a prompt discharge of the duties of practical life. The habit of indecision must be overcome; it is often better to decide unwisely than not to decide at all.

Direction.—The strong will should be directed in its activity. The old idea that a child's will is to be broken is a pernicious doctrine in education. To direct and not to repress is the true law of culture. The boy who has a strong will, possesses a power that may make him a blessing to the world. To endeavor to destroy or break such a will, would be a fatal mistake. What we need is to put it into the channels of virtue; to subordinate it to the sense of duty; and the boy may grow up to be one of those heroic souls whom the world honors for their deeds of beneficence.

Control.—A third principle in training the will is that of *self-control*. The will should not only flow out with energy in the channels of correct activity, but it should also be able to withhold its energies at the dictates of judgment. A strong will should not only seek to control the outward forces and circumstances of nature, but should turn inward and obtain a mastery over itself. The greatest victory of the will is the victory over itself. He that ruleth his own spirit is better than he that taketh a city. The ability to hold the will in complete subjection to its own behests, is an invaluable attainment. A calm, quiet self-possession, a complete equipoise of mind under the most exciting circumstances,—such a power is both useful and admirable, and should be one of the ends of the culture of the will.

A Natural Gift.—Men differ materially in power of will as well as in other faculties. There is a genius of will as there is a genius of thought or imagination. No training would make out of a man born with a feeble will a heroic soul like Napoleon or Luther. This attribute is partly in the mind and partly in the body; there is a physical courage as well as a mental courage. "Courage," says Emerson, "is the degree of circulation of blood in the arteries;" this, however, is only half a truth. Courage and determination lie also in the mind and moral nature, as well as in the physical. Strength of will can, however, be cultivated; and it is a culture that will pay largely for the labor.

Overcoming Obstacles.—The will may be cultivated by the practice of overcoming difficulties. The will grows by what it conquers. Every new conquest gives it additional power for some other conquest. Children should be led to acquire the habit of overcoming difficulties. There is hope for the future of a boy who applies himself to a task merely because it is difficult. Carey, the eminent missionary, in climbing a tree when a boy, slipped and fell to the ground, breaking his leg. Confined to his bed for a few weeks, the first thing he did, as soon as he was able to walk, was to go and climb the tree. The determined spirit which moved the boy to a feat of daring, led him to brave dangers and hardships for the spread of the gospel of peace.

By Difficult Studies.—There are several school studies that are valuable for the culture of the will. Among these, the branches of mathematics hold the first rank. These branches require close thought and persistent effort; the will must command the thought in order to master them. The student that refuses assistance from teacher or key in the solution of a hard problem, and sits up all night rather than fail in mastering the difficulty, is cultivating a force of will that will prove invaluable in after life. The study of Latin and Greek is much like mathematics in cultivating the power of the will. A strong objection to some of the oral instruction in the so-called New Education is that it makes knowledge too easy, and fails to cultivate the power of application. One of the most important benefits derived from a study is the culture of habits of hard, steady, persistent, and self-reliant labor.

Culture of Self-Reliance.—Special efforts should be made to render young persons self-reliant. But little direct assistance should be afforded them in their studies; hints may be given and the way pointed out, but they should be required to do the labor themselves. Games of skill may be used in the same way as studies. The competitions of the play-ground are useful in this respect. A game of base-ball or cricket gives valuable training to the will power. Running, leaping, the gymnasium, etc., all furnish excellent opportunities for the culture of the will. Field sports, hunting, racing, and the amusements of a ruder life, did much more to strengthen the will than the effeminate pastimes and employments of modern society. We hail the introduction of athletic sports into our schools and colleges as affording not only a development of physical hardihood, but also a training to resoluteness of purpose.

Decide Promptly.—It is well to form a habit of deciding promptly. The habit of hesitating and vacillating between several objects of choice tends to weaken the will. Especially should the decision be prompt where there seems to be little choice between objects, and where no important consequences depend upon the choice. In many circumstances in life, a poorer choice promptly made, is better than a wiser one arrived at tardily. The general on the field of battle cannot wait to deliberate and weigh consequences. A poor movement well-executed will win a victory, while a better one, tardily chosen, would result in defeat.

Pride of Decision.—Much can be done to cultivate the will by arousing a pride of firmness. The example of a person with a timid and vacillating disposition is so repulsive that it will awaken a determination to be determined. A man with a resolute purpose and heroic courage commands the admiration of the heart, and inspires one with the desire and resolve to emulate this virtue. The admiration of the heroic souls of history who, by the power of an imperial will, moulded circumstances to their purposes and triumphed over all opposition, stimulates the will of the young to similar triumphs.

Power of Other Wills.—The will may be stimulated to action by the power of other wills operating upon it. The energy of one mind may, as it were, be infused into other minds. It is said of an officer in the Revolutionary army that when lying helpless from rheumatism he was ordered by Washington to perform some duty. On his replying that he was unable to go, he received a message from Washington, saying, "Sir, you must go." Inspired by the will of his general, he mounted his horse and executed the order. Cæsar made heroes of his soldiers by his own heroic example. Crossing the sea in a storm, he quelled the fears of the seamen and inspired them with courage by the words, "Why do you fear? You carry Cæsar." The iron will of Cromwell could transform simple English yeomen into the invincible soldiers of his famous "Ironsides." Joan of Arc seemed to put her own heroic soul into the bosoms of the coward soldiers of Charles, as she led them on to glorious victory.

By Moral Influences.—The firmest basis of a strong will is the *sense of duty.* A will enthroned in conscience is almost invulnerable. It is this that holds a man true to his convictions amid the sufferings of the rack and the flames of martyrdom. Conscience, though it may "make cowards of us all," can also make heroes of us all. Faithful to a sense of duty, the most timid and shrinking soul rises to an altitude of heroic firmness that awakens emotions of sublimity. Margaret Wilson, the young Scotch Covenanter, chained to a stake in the way of the rising tide, remained true to her faith and sang praises to God until her voice was drowned in death by the advancing waves.

Conclusion.—In conclusion I desire to enjoin upon teachers and parents the duty of training the will. Remember that the culture of the intellect is not sufficient to meet the demands of education; the power which directs the intellect and gives it efficiency must also be cultivated. We need spiritual energy as well as mental acuteness; and the culture of the will affords this energy. Character is worth more than high intellectual attainments; and the will is one of the most important elements of character. Let us as teachers endeavor to develop wise heads, pure hearts, and strong wills, and our pupils will accomplish that which dignifies manhood and gives glory to humanity.

HIGHER SPIRITUAL CULTURE.

We have led the student from the beginning of mental activity in the senses up through the sphere of abstract principles, and found a source of supernatural and absolute truth in the Reason. The Reason reaches down toward the finite, and reads the ideas that it symbols; it reaches out in time and space, and apprehends the infinite; it reaches up towards a great first cause, and apprehends the necessity of an absolute beginning. It gives rise to the idea of the Good, and thus lays the foundation of man's moral nature. Lifting this idea up into the sphere of the infinite, it attains to the idea of GOD, and thus reaches the Religious Nature.

Higher spiritual culture demands the education of the religious nature. The religious nature, as we have shown, is the highest form of the Ethical; it is the Ethical acting in relation to the Supreme Being. It implies the consecration of all our powers to God, and requires their fullest and highest activity. The highest operation of the intellect is Faith; the highest operation of the sensibilities is Love; the highest operation of the will is Obedience. The elements of religion, therefore, are *Faith*, *Love*, and *Obedience;* Faith in God and salvation; Love to God and man; Obedience, the complete subordination of the human will to the Divine. Here we reach the crowning excellence of man's being, the keystone of the spiritual arch.

Spiritual culture educates the principle of *faith*. To develop the spirit of inquiry is right, but there is a place where inquiry must stop. In this respect the child and the philosopher stand upon the same level. We may assign cause after cause to account for phenomena, but at last we must end at the uncaused. "Who made things?" said a little girl of three years. "God," said her mother; "He made all things!" This answered for a year, but at four the question came, "Who made God?" "No one," said the mother; "He always was." Reflecting a moment, the little skeptic exclaimed, "Why, mamma, didn't somebody just make his hands, and then he make the rest of hisself?" Philosophers, like the child, often doubt first causes, and are constantly looking for some one to "make the hands."

The teacher should labor to cultivate the faith of his pupils. The trust of childhood should be developed into the faith of the philosopher. Pupils should be led to see that all science begins and ends in faith; that the chain of every logical induction or deduction hangs upon an *a priori* truth; that beyond the known stretches a great unknown; and that the loftiest attainments of the intellect are but a mountain peak, from which, with the eye of reason, we may catch glimpses of the land of glory beyond.

The *love* element of religion should be developed early in the heart of a child. Love is the golden cord that binds the soul to duty and honor. The mother's love-kiss on the brow, the caress of a sister, the kind look of a father, take deeper hold upon the heart than their precepts and admonitions. Love is the sunlight in which the spirit grows. We plant a seed in the cold, dark earth, and the sunlight comes and puts its golden arms around it, and lifts it into bloom and beauty. So the soul is lifted up into a purer and better life by the sunlight of love.

Love is the very essence of religion. We obey God because we love him. The planets revolve around their central sun, held in their orbits by the elastic thread of gravity. Christ is the central sun of the Christian world, and we revolve about him, held in the orbit of duty by the influences of his infinite love. Let us kindle the flame of love, therefore, upon the heart-altars of youth, that it may burn with vestal constancy in manhood and age. Let it light up the home-circle, making home, as it should be, the dearest spot on earth. Let it flow out into friendship, linking souls together with the constancy of David and Jonathan. Let it spread until it embraces one's native land, filling the heart with a patriotism that makes us, like Warren, feel that it is sweet to die for one's country. Let it widen still farther until it covers the whole earth, and goes out in acts of philanthropy, such as have given immortality to Howard and Florence Nightingale. And then, leaving earth, let us lead it upward to meet and blend with the infinite love that flows from the heart of the Great Father.

We need, also, to cultivate the principle of *obedience*, the subordination to authority. Obedience to others gives the power of self-control. No one is able to command who has not himself learned to obey. The best commanding generals were the most obedient subalterns. The habit of obedience to superiors leads unconsciously to obedience to the dictates of conscience.

This injunction is especially important to us as teachers of youth. We are neglecting the principle of subordination to duty in American education. Boys are allowed to do too much as they choose, and thus learn to disregard parental authority. No boy who has been taught obedience to parents speaks of his father as the "governor," or of his mother as the "old woman." The worst boys at school come from homes where there is no submission to parental authority. The result of such neglect is a disregard of social customs and restraints, and, too often, a violation of legal statutes. Let teachers and parents, therefore, train the will to submit to rightful authority, that the rising generation may become good citizens and Christian men and women.

The culture of these three elements—Faith, Love, and Obedience—in their relation to God, is religious culture. Faith in God, love to God, and obedience to God, is religion. The relation is simple and logical. Faith leads to love; we must believe before we can love. Love leads to obedience; that obedience is the most willing and perfect which flows from affection. Faith, then, is the foundation upon which Love, the wise master-builder, rears the temple of Obedience. Or, Faith is the soil in which grows the tree of Love, and Obedience the ripened fruit. Let us plant the tree of Love in the soil of Faith in God, and it will reward us with the golden fruit of perfect Obedience.

Such a culture will not only secure the approval of the wisest and best among mankind, but I believe that in the day when the Great Master makes his awards, the brightest wreath will be placed upon the brow of him who has done the most for the spiritual culture of the race.

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